

**Digital Imaging and Communications in Medicine (DICOM)**

*Supplement 220: Prostate MRI Structured Reporting*

*Prepared by:*

**DICOM Standards Committee, Working Group 8 (Structured Reporting)**

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VERSION: Final Text, 2021/07/14

Developed in accordance with: DICOM Work item 2019-04-B

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## Scope and field of application

This Supplement to the DICOM Standard introduces a DICOM Structured Reporting template for encoding the radiologist's interpretation of a patient's prostate MR imaging study. The primary purpose of the templates is to support linking of the annotations of findings with the measurements derived from those findings and qualitative evaluations associated with those findings. In addition, the template provides the means to communicate image-related information that is important to the assessment of prostate MRI (e.g., Prostate Specific Antigen testing history and prostate biopsies).

The main use cases motivating the development of the templates are the following:

- 1) Interoperability between the radiology workstations used for annotation of prostate MRI and MRI-Ultrasound fusion and targeting workstations used for sampling suspected locations using targeted biopsy approaches;
- 2) Interoperability with the machine learning tools that automate the process of identifying suspected prostate cancer locations;
- 3) Collection of structured data to support training of the machine learning tools for automated detection and grading of prostate cancer in MRI;
- 4) Aggregation of structured MRI interpretation documents across institutions;
- 5) Integration of structured machine-readable information annotating clinical findings in MRI longitudinally and across radiology, urology and pathology subspecialties.

While the organization of the templates is not restricted to a specific prostate MRI interpretation protocol, it is primarily designed to support Prostate Imaging - Reporting and Data System (PI-RADS), which is a prostate MRI structured reporting and scoring guidelines developed through an international collaboration of the American College of Radiology (ACR), European Society of Uroradiology (ESUR), and AdMetech Foundation. PI-RADS guidelines are oriented towards practicing radiologists, and do not define any provisions for the machine-readable representation of the PI-RADS reports.

Note that the organization of content implemented in the templates structures information to facilitate machine readability, and does not follow the structure and headings suggested in the PI-RADS guidelines for the narrated report. It is expected that, if needed, such a human-oriented structure can be formatted based on the content in this machine-oriented structure.

Part 15 Addendum

Amend DICOM Part 15 E.3.4 Clean Structured Content Option as follows (changes to existing text are **bold** and **underlined** for additions and ~~struckthrough~~ for removals):

**Table E.3.4-1. Application Level Confidentiality Profile Clean Structured Content Option Content Item Concept Name Codes**

Code Meaning	Code Value	Coding Scheme Designator	Value Type	Retd. (from <a href="#">PS3.16</a> )	In Std. Tpl. (from <a href="#">PS3.16</a> )	Basic Prof.	Rtn. UID Opt.	Rtn. Dev. Opt.	Rtn. Inst. Opt.	Rtn. Pat. Char. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Des. Opt.
<b><u>Experience</u></b>	<b><u>C54627</u></b>	<b><u>NCIt</u></b>	<b><u>NUM</u></b>	<b><u>N</u></b>	<b><u>Y</u></b>	<b><u>X</u></b>							

## Part 16 Addendum

Amend DICOM Part 16 2 Normative References as follows (changes to existing text are **bold and underlined** for additions and ~~struckthrough~~ for removals):

### 2 Normative References

...

#### 2.20 Prostate Reporting Terminology and Nomenclature

**[Rozenkrantz 2013] A. B. Rosenkrantz *et al.*, “Prostate cancer localization using multiparametric MR imaging: comparison of Prostate Imaging Reporting and Data System (PI-RADS) and Likert scales,” *Radiology*, vol. 269, no. 2, pp. 482–492, Nov. 2013, doi: 10.1148/radiol.13122233. Available: <http://dx.doi.org/10.1148/radiol.13122233>**

**[Kuru 2013] T. H. Kuru *et al.*, “Definitions of terms, processes and a minimum dataset for transperineal prostate biopsies: a standardization approach of the Ginsburg Study Group for Enhanced Prostate Diagnostics,” *BJU Int.*, vol. 112, no. 5, pp. 568–577, 2013. Available: <http://onlinelibrary.wiley.com/doi/10.1111/bju.12132/full>**

**A Structured Reporting Templates (Normative)**

Amend DICOM Part 16 Annex A DCMR Templates (Normative) as follows (changes to existing text are **bold and underlined** for additions and ~~struckthrough~~ for removals):

**TID 1002 Observer Context**

**Table TID 1002. Observer Context**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
<u>4</u>		<b><u>HAS OBS CONTEXT</u></b>	<b><u>INCLUDE</u></b>	<b><u>DTID 1015 "Person Observer Description"</u></b>	<u>1</u>	<u>U</u>		

**TID 1015 Person Observer Description**

This Template includes attributes describing the qualifications of the person observer relevant to the content generated by the observer.

**Notes:**

- 

**Type:**

**Extensible**

**Order:**

**Non-Significant**

**Root:**

**No**

**Table TID 1015. Person Observer Description**

	NL	Rel with Parent	VT	Concept Name	VM	Req	Condition	Value Set
--	----	-----------------	----	--------------	----	-----	-----------	-----------



						Type		Constraint
1			CODE	EV (128003, DCM, "Reader Specialty")	1	U		<a href="#">BCID 7449 "Reader Specialty"</a>
2	>	HAS PROPERTIES	NUM	EV (C54627, NCI, "Experience")	1	U		UNITS = EV (a, UCUM, "Year")

### TID 1410 Planar ROI Measurements and Qualitative Evaluations

**Table TID 1410. Parameters**

<u>Parameter Name</u>	<u>Parameter Usage</u>
<u>\$TrackingID</u>	<u>Value for Tracking Identifier</u>
<u>\$TrackingUID</u>	<u>Value for Tracking Unique Identifier</u>

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV ( <a href="#">125007, DCM, "Measurement Group"</a> )	1	M		
1b		HAS OBS CONTEXT	TEXT	EV ( <a href="#">C67447, NCI, "Activity Session"</a> )	1	U		
2	>	HAS OBS CONTEXT	TEXT	DT ( <a href="#">112039, DCM, "Tracking Identifier"</a> )	1	U		<u>\$TrackingID</u>
3	>	HAS OBS CONTEXT	UIDREF	EV ( <a href="#">112040, DCM, "Tracking Unique Identifier"</a> )	1	U		<u>\$TrackingUID</u>

### TID 1411 Volumetric ROI Measurements and Qualitative Evaluations

**Table TID 1411. Parameters**

<u>Parameter Name</u>	<u>Parameter Usage</u>
<u>\$TrackingID</u>	<u>Value for Tracking Identifier</u>

<b><u>\$TrackingUID</u></b>	<b><u>Value for Tracking Unique Identifier</u></b>
-----------------------------	--

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV ( <a href="#">125007, DCM, "Measurement Group"</a> )	1	M		
1b		HAS OBS CONTEXT	TEXT	EV ( <a href="#">C67447, NCI, "Activity Session"</a> )	1	U		
2	>	HAS OBS CONTEXT	TEXT	DT ( <a href="#">112039, DCM, "Tracking Identifier"</a> )	1	U		<b><u>\$TrackingID</u></b>
3	>	HAS OBS CONTEXT	UIDREF	EV ( <a href="#">112040, DCM, "Tracking Unique Identifier"</a> )	1	U		<b><u>\$TrackingUID</u></b>

**TID 1501 Measurement and Qualitative Evaluation Group**

**Table TID 1501. Parameters**

<b><u>Parameter Name</u></b>	<b><u>Parameter Usage</u></b>
<b><u>\$TrackingID</u></b>	<b><u>Value for Tracking Identifier</u></b>
<b><u>\$TrackingUID</u></b>	<b><u>Value for Tracking Unique Identifier</u></b>

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV ( <a href="#">125007, DCM, "Measurement Group"</a> )	1	M		
1b		HAS OBS CONTEXT	TEXT	EV ( <a href="#">C67447, NCI, "Activity Session"</a> )	1	U		
2	>	HAS OBS CONTEXT	TEXT	DT ( <a href="#">112039, DCM, "Tracking Identifier"</a> )	1	U		<b><u>\$TrackingID</u></b>
3	>	HAS OBS CONTEXT	UIDREF	EV ( <a href="#">112040, DCM, "Tracking Unique Identifier"</a> )	1	U		<b><u>\$TrackingUID</u></b>
...	...	...	...	...				
11	>	CONTAINS	CODE	\$QualType	1-n	U		<b><u>\$QualValue</u></b>

**TID 1606 Image Library Entry Descriptors for MR**

This Template contains selected attributes for a MR image or group of such images. The descriptive information may be copied from images or derived. **Specialized coded content items allow more precise description of imaging sequences used for interpretation of multiparametric prostate MRI.**

Type:

Extensible

Order:

Non-Significant

Root:

No

**Table TID 1606. Image Library Entry Descriptors for MR**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1		HAS ACQ CONTEXT	TEXT	EV ( <a href="#">128230, DCM, "Pulse Sequence Name"</a> )	1	U		
<u>2</u>		<u>HAS ACQ CONTEXT</u>	<u>NUM</u>	EV ( <a href="#">130542, DCM, "Magnetic field strength"</a> )	<u>1</u>	<u>U</u>		UNITS = (T, UCUM, "Tesla")
<u>3</u>		<u>HAS ACQ CONTEXT</u>	<u>CODE</u>	EV ( <a href="#">RID10813, RADLEX, "MR coil"</a> )	<u>1-n</u>	<u>U</u>		<a href="#">BCID 6349 "MR Coil Types"</a>
<u>4</u>		<u>HAS ACQ CONTEXT</u>	<u>CODE</u>	( <a href="#">110852, DCM, "MR signal intensity"</a> )	<u>1</u>	<u>U</u>		<a href="#">BCID 6311 "MR Signal Intensity"</a>
<u>5</u>		<u>HAS ACQ CONTEXT</u>	<u>CODE</u>	( <a href="#">130546, DCM, "Cross-sectional scan plane orientation"</a> )	<u>1</u>	<u>U</u>		<a href="#">BCID 6312 "Cross-sectional Scan"</a>

								<a href="#">Plane Orientation</a>
<u>6</u>		<u>HAS ACQ CONTEXT</u>	<u>NUM</u>	<a href="#">(113240, DCM, "Source image diffusion b-value")</a>	<u>1-n</u>	<u>U</u>		<u>UNITS = (s/mm2, UCUM, "s/mm2")</u>
<u>7</u>		<u>HAS ACQ CONTEXT</u>	<u>INCLUDE</u>	<a href="#">DTID 1608 "Image Library Entry Descriptors for Prostate Multiparametric MR"</a>	<u>1</u>	<u>U</u>		

**Content Item Descriptions**

<u>Row 6</u>	<u>Multiple values may apply when entry descriptor corresponds to a parametric map such as Apparent Diffusion Coefficient map, which utilizes multiple b-values from a Diffusion-Weighted acquisition.</u>
--------------	--

**TID 3830 Procedure Properties**

Table TID 3830. Parameters

Parameter Name	Parameter Usage
<u>\$ProcedureResult</u>	<u>Coded result of the procedure</u>

Type:

Extensible

Order:

Significant

Root:

No

Table TID 3830. Procedure Properties

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
11	≥	<b>HAS PROPERTIES</b>	<b>CODE</b>	<b>EV (122177, DCM, "Procedure Result")</b>	<b>1-n</b>	<b>U</b>		<b>\$ProcedureResult</b>

### TID 9007 General Relevant Patient Information

This Template collects a patient's relevant information for general purpose use. This Template, together with its subordinate Templates, describes the history of a patient's reproductive system, medications, substance use, environmental exposure, past procedures, risk factors, and indicated problems.

**Table TID 9007. Parameters**

<b>Parameter Name</b>	<b>Parameter Usage</b>
<b>\$ProblemList</b>	<b>Coded term or Context Group for value of Indicated Problem</b>
<b>\$RiskList</b>	<b>Coded term or Context Group for value of Risk List</b>

**Table TID 9007. General Relevant Patient Information**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	<a href="#">EV (111517, DCM, "Relevant Patient Information")</a>	1	M		
2	>	HAS CONCEPT MOD	INCLUDE	<a href="#">DTID 1204 "Language of Content Item and Descendants"</a>	1	<b>MC</b>	<b>IFF Root template for the Relevant Patient Information Query Service Class</b>	

...							
8	>	CONTAINS	INCLUDE	<a href="#">DTID 9004</a> "Indicated Problem"	1	U	<u>\$LateralityValue =</u> <u>BCID 244</u> <u>"Laterality"</u> - <u>\$ProblemList =</u> <u>\$ProblemList</u>
9	>	CONTAINS	INCLUDE	<a href="#">DTID 9005</a> "Risk Factor"	1	U	<u>\$RiskList = \$RiskList</u> <u>st</u> <u>\$RiskList</u> <u>defaults</u> <u>to BCID</u> <u>6087</u> <u>"General</u> <u>Risk</u> <u>Factors"</u>  <u>\$FamilyList = DCID</u> <u>7451</u> <u>"Family</u> <u>Member"</u>
...							
<u>14</u>	<u>&gt;</u>	<u>CONTAINS</u>	<u>INCLUDE</u>	<u>DTID 4301</u> <u>"Genitourinary History"</u>	<u>1</u>	<u>U</u>	

**Content Item Descriptions**

<u>Row 2</u>	<u>See Annex K.</u>
<u>Row 14</u>	<u>Genitourinary history is used to report findings such as those associated with the examinations that are suspicious for the presence of prostate cancer (i.e., Digital Rectal Examination, blood test results).</u>

Add the following new templates to DICOM Part 16 Annex A DCMR Templates (Normative):

**TID 1700 Generic Blood Lab Measurements**

The Generic Blood Lab Measurements Template provides for the recording of measurements made on a blood sample that is not specific to a particular clinical application. The type and anatomic source of the blood is recorded as acquisition context. The results from the blood chemistry measurement system are quoted; the measurement names may be pre-coordinated with the type or source of the blood, or generic measurement names may be reported. In the latter case, the full measurement concept name may be effectively post-coordinated using the recorded acquisition context.

**Table TID 1700. Parameters**

Parameter Name	Parameter Usage
\$Measurement	Measurement
\$Units	Measurement units

**Type:**

**Extensible**

**Order:**

**Significant**

**Root:**

**No**

**Table TID 1700. Generic Blood Lab Measurements**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV ( <a href="#">122125.DCM, "Blood lab measurements"</a> )	1	M		

2	>	HAS ACQ CONTEXT	DATETIME	<a href="#">EV (111469, DCM, "Sampling DateTime")</a>	1	M		
3	>	HAS ACQ CONTEXT	CODE	<a href="#">EV (371439000, SCT, "Specimen Type")</a>	1	U		
4	>	HAS ACQ CONTEXT	CODE	<a href="#">EV (363704007, SCT, "Procedure site")</a>	1	U		
5	>		INCLUDE	<a href="#">DTID 1000 "Quotation"</a>	1	U		
6	>	CONTAINS	INCLUDE	<a href="#">DTID 300 "Measurement "</a> -	1-n	M		\$Measure ment = \$Measure ment \$Units = \$Units

Add the following new Section and Templates to Part 16 Annex A DCMR Templates (Normative):

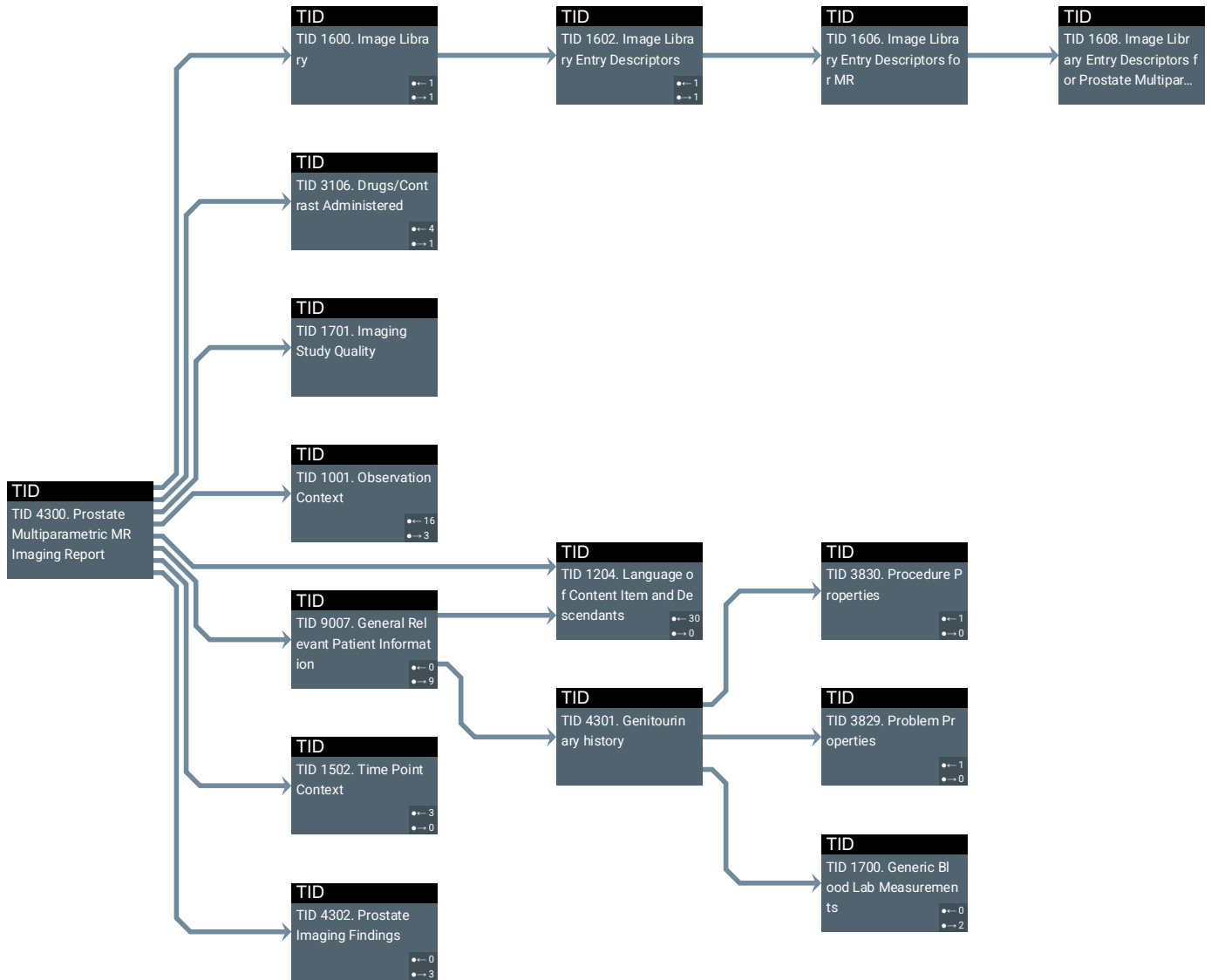
## PROSTATE IMAGING REPORT TEMPLATES

TID 4300 "Prostate Imaging Report" is the top-level report that includes all subordinate templates. Specific components related to prostate imaging are organized in the following subordinate templates:

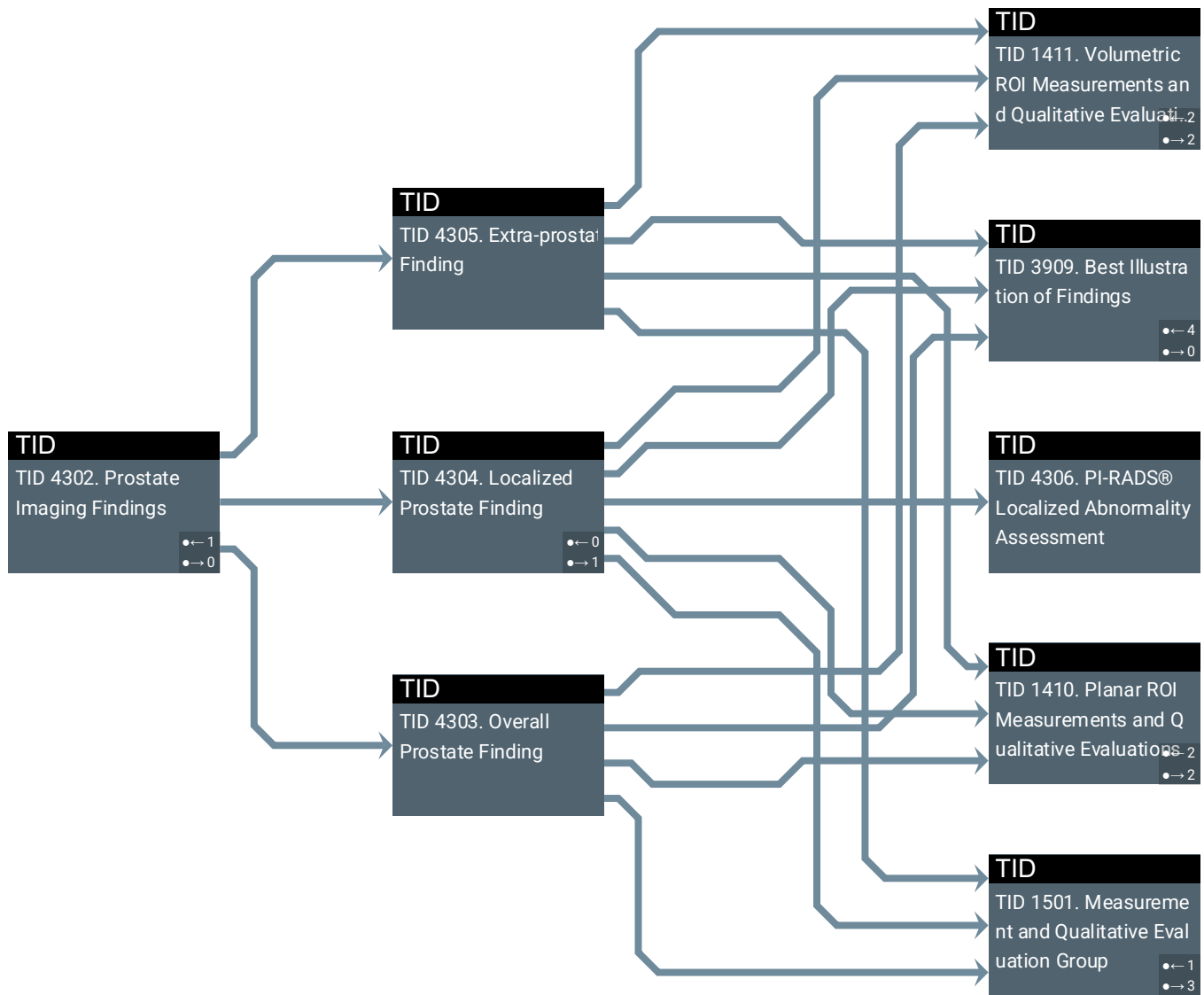
- TID 9007 "General Relevant Patient Information" can be used to describe relevant clinical history, tests and procedures (e.g., Prostate Specific Antigen Tests and biopsy results);
- TID 1600 "Image Library" can be used to code individual MR series into defined types;
- TID 3106 "Drugs/Contrast Administered" can be used to describe details related to contrast administration during Dynamic Contrast-Enhanced MR acquisition, which is often used for prostate evaluation;
- TID 1701 "Imaging Study Quality" can be used to describe quality of the study and individual series in the study;
- TID 4302 "Prostate Imaging Findings" are intended for describing three groups of findings: overall prostate findings in TID 4303, localized findings within the prostate in TID 4304, and extra-prostatic findings in TID 4305. Each of these three templates follows a similar structure allowing for annotating the finding either volumetrically or planimetrically, and assigning attributes to those annotations.



The overall templates that comprise the Prostate Imaging Report are interconnected as in Figure A.4300-1:



The templates comprising TID 4302 “Prostate Imaging Findings” are shown in Figure A.4300-2.



### TID 1608 Image Library Entry Descriptors for Prostate Multiparametric MR

This Template includes attributes for image library entries that define the type of the sequence, as needed for PI-RADS interpretation of multiparametric MRI, specify most important sequence-specific attributes, and provide a location for reporting prostate imaging and sequence-specific technical characteristics of the acquisition.

**Notes:**

- A descriptor specific to prostate MRI and PI-RADS is provided to record Prostate DCE temporal resolution. This term follows the conventions used in the PI-RADS guidelines.

**Type:**

**Extensible**

**Order:**

**Non-Significant**

**Root:**

**No**

**Table TID 1608. Image Library Entry Descriptors for Prostate Multiparametric MR**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1		HAS ACQ CONTEXT	TEXT	EV (130544, DCM, "Endorectal coil type")	1	U		
2		HAS ACQ CONTEXT	CODE	EV (130545, DCM, "Inflatable endorectal coil fill substance")	1	U		<a href="#">BCID 6350 "Endorectal Coil Fill Substances"</a>
3		HAS ACQ CONTEXT	NUM	(130547, DCM, "Dynamic contrast-enhanced temporal resolution")	1	U		UNITS = EV (s, UCUM, "second")

**TID 4301 Genitourinary History**

This disease-specific template collects the details of a patient's genitourinary system history, such as those relevant in the context of prostate cancer screening, including abdominal surgeries, history of androgen deprivation therapy, digital rectal examination, and relevant labs.

**Type:**

**Extensible**

**Order:**

**Significant**

**Root:**

**No**

**Table TID 4301. Genitourinary History**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
--	----	-----------------	----	--------------	----	----------	-----------	----------------------

1			CONTAINER	EV (130548, DCM, "Genitourinary History")	1	M		
2	>	CONTAINS	TEXT	EV (11329-0, LN, "History")	1	U		
3	>	CONTAINS	CONTAINER	DT ( <a href="#">11450-4, LN, "Problem List"</a> )	1	U		
4	>>	CONTAINS	TEXT	<a href="#">DCID 3769 "Concern Types"</a>	1-n	U		
5	>>	CONTAINS	INCLUDE	<a href="#">DTID 3829 "Problem Properties"</a>	1-n	U		\$Problem = <a href="#">CID 6313 "History of Prostate Disease"</a> \$Therapy = <a href="#">DCID 6323 "Prostate Cancer Therapy"</a>
6	>	CONTAINS	CONTAINER	DT ( <a href="#">29762-2, LN, "Social History"</a> )	1	U		
7	>>	CONTAINS	TEXT	EV ( <a href="#">160476009, SCT, "Social History"</a> )	1	U		
8	>>	CONTAINS	CODE	EV ( <a href="#">365981007, SCT, "Tobacco Smoking Behavior"</a> )	1	U		<a href="#">DCID 3724 "Smoking History"</a>
9	>	CONTAINS	CONTAINER	DT ( <a href="#">10167-5, LN, "Past Surgical History"</a> )	1	U		
10	>>	CONTAINS	TEXT	EV ( <a href="#">11329-0, LN, "History"</a> )	1-n	U		
11	>>	CONTAINS	INCLUDE	<a href="#">DTID 3830 "Procedure Properties"</a>	1-n	U		\$ProcType = <a href="#">DCID 6319 "Abdominal"</a>

								<a href="#">Intervention Types”</a> \$Procedure = <a href="#">DCID 6320</a> <a href="#">“Abdominal Interventions”</a>
12	>	CONTAINS	CONTAINER	DT ( <a href="#">30954-2, LN, "Relevant Diagnostic Tests and/or Laboratory Data"</a> )	1	U		
13	>>	CONTAINS	TEXT	EV ( <a href="#">11329-0, LN, "History"</a> )	1-n	U		
14	>	CONTAINS	CONTAINER	DT ( <a href="#">103693007, SCT, "Diagnostic procedure"</a> )	1-n			
15	>>	CONTAINS	INCLUDE	DTID 1700 <a href="#">“Generic Blood Lab Measurements”</a>	1-n	U		\$Measurement = <a href="#">BCID 6352</a> <a href="#">“Prostate Cancer Diagnostic Blood Lab Measurements”</a>
16	>>	CONTAINS	INCLUDE	DTID 3830 <a href="#">“Procedure Properties”</a>	1-n	U		\$ProcType = DT ( <a href="#">103693007, SCT, "Diagnostic procedure"</a> ) \$Procedure = <a href="#">DCID 6321</a>

								<a href="#">"Prostate Cancer Diagnostic Procedures"</a> \$ProcedureResult = <a href="#">DCID 242 "Normal-Abnormal"</a>
17	>	CONTAINS	CONTAINER	DT ( <a href="#">10160-0, LN, "History of Medication Use"</a> )	1	U		
18	>>	CONTAINS	TEXT	DT ( <a href="#">111516, DCM, "Medication Type"</a> )	1-n	U		
19	>>>	HAS PROPERTIES	CODE	DT ( <a href="#">33999-4, LN, "Status"</a> )	1	U		<a href="#">DCID 3773 "Use Status"</a>
20	>>	CONTAINS	CODE	DT ( <a href="#">111516, DCM, "Medication Type"</a> )	1-n	U		
21	>>>	HAS PROPERTIES	NUM	DT ( <a href="#">260911001, SCT, "Dosage"</a> )	1	U		
22	>>>	HAS PROPERTIES	CODE	DT ( <a href="#">33999-4, LN, "Status"</a> )	1	U		<a href="#">DCID 3773 "Use Status"</a>
23	>	CONTAINS	CONTAINER	DT ( <a href="#">10157-6, LN, "History of Family Member Diseases"</a> )	1	U		
24	>>	CONTAINS	TEXT	EV ( <a href="#">11329-0, LN, "History"</a> )	1-n	U		
25	>>	CONTAINS	CODE	EV ( <a href="#">416471007, SCT, "Family history of clinical finding"</a> )	1-n	U		<a href="#">CID 6322 "Prostate Cancer Family History"</a>

26	>>>	HAS PROPERTIES	CODE	EV ( <a href="#">408732007, SCT, "Subject relationship"</a> )	1	U		<a href="#">DCID 7451 "Family Member"</a>
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### TID 1701 Imaging Study Quality

This template provides the mechanism to describe image quality both at the study and individual series level, following a specific quality control standard.

**Type:**

**Extensible**

**Order:**

**Significant**

**Root:**

**No**

**Table TID 1701. Parameters**

Parameter Name	Parameter Usage
\$ImageQualityControlStandard	Value for Quality Control Standard
\$StudyQualityFindings	Value for Study Quality Findings
\$SeriesQualityFindings	Value for Series Quality Findings

**Table TID 1701. Imaging Study Quality**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (130549, DCM, "Imaging Study Quality")	1	M		

2	>	CONTAINS	CODE	EV ( <a href="#">111050, DCM, "Quality Assessment"</a> )	1	M		<a href="#">DCID 6044 "Types of Image Quality Assessment"</a>
3	>>	HAS PROPERTIES	CODE	EV ( <a href="#">111051, DCM, "Quality Control Standard"</a> )	1	M		\$ImageQualityControlStandard Defaults to <a href="#">BCID CID 6326 "Image Quality Control Standards"</a>
4	>	CONTAINS	CODE	EV ( <a href="#">111052, DCM, "Quality Finding"</a> )	1-n	U		\$StudyQualityFindings
5	>	CONTAINS	CONTAINER	EV (130550, DCM, "Imaging Series Quality")	1-n	U		
6	>>	CONTAINS	UIDREF	EV ( <a href="#">112002, DCM, "Series Instance UID"</a> )	1-n	M		
7	>>	CONTAINS	CODE	EV ( <a href="#">111050, DCM, "Quality Assessment"</a> )	1	MC	At least one of rows 7, 9, 10 shall be present	<a href="#">DCID 6044 "Types of Imaging Quality Assessment"</a>
8	>>>	HAS PROPERTIES	CODE	EV ( <a href="#">111051, DCM, "Quality Control Standard"</a> )	1	M		\$ImageQualityControlStandard Defaults to <a href="#">BCID CID 6326 "Image Quality Control Standards"</a>



9	>>	CONTAINS	CODE	EV ( <a href="#">111052, DCM, "Quality Finding"</a> )	1-n	MC	At least one of rows 7, 9, 10 shall be present	\$SeriesQualityFindings
10	>>	CONTAINS	NUM	EV (111029, DCM, "Image Quality Rating")	1	MC	At least one of rows 7, 9, 10 shall be present	UNITS = EV (% , UCUM, "Percent") Value = 0 - 100

### Content Item Descriptions

Row 6	Defines the series to which the assessments apply.
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## TID 4300 Prostate Multiparametric MR Imaging Report

This root template forms the content tree that allows a Prostate Imaging Report device to describe the results of a radiologist's diagnostic interpretation of Prostate Imaging (e.g., multiparametric MRI) evidence. This Template, together with its subordinate Templates, describes the results for presentation to clinicians, or for consumption by Prostate Imaging Report devices for subsequent Prostate Imaging Reports.

The initial primary application of the template is to support reporting of Prostate Imaging Reporting and Data System version (PI-RADS) based interpretation of multiparametric MRI of the prostate, and specifically PI-RADS v2 reporting [PI-RADS]. PI-RADS guidelines were formulated based on the consensus of the analysis of published evidence and expert observations and opinions. The goal of PI-RADS is "to improve detection, localization, characterization, and risk stratification in patients with suspected cancer in treatment-naive prostate glands".

**Type:**

**Extensible**

**Order:**

**Significant**

**Root:**

**Yes**

**Table TID 4300. Prostate Multiparametric MR Imaging Report**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (719178004, SCT, "Multiparametric magnetic resonance imaging of prostate")	1	M		Root node
2	>	HAS CONCEPT MOD	INCLUDE	DTID 1204 "Language of Content Item and Descendants"	1	M		
3	>	HAS OBS CONTEXT	INCLUDE	DTID 1001 "Observation Context"	1	M		
4	>	HAS OBS CONTEXT	INCLUDE	DTID 1502 "Time Point Context"	1	U		
5	>	CONTAINS	CODE	EV (130551, DCM, "Reporting system")	1	M		DCID 6310 "Prostate Reporting Systems"
6	>	CONTAINS	INCLUDE	DTID 1600 "Image Library"	1	U		
7	>	CONTAINS	INCLUDE	DTID 9007 "General Relevant Patient Information"	1	U		\$ProblemList = BCID 6327 "Prostate Imaging Indications"
8	>	CONTAINS	CONTAINER	EV (130552, DCM, "Prostate MRI relevant procedure information")	1	U		
9	>>	CONTAINS	INCLUDE	DTID 3106 "Drugs/Cont"	1-n	U		

				<a href="#">rast Administered</a>				
10	>>	CONTAINS	CODE	EV (130543, DCM, "Endorectal coil used")	1	U		<a href="#">DCID 231 "Yes-No Only"</a>
11	>	CONTAINS	INCLUDE	<a href="#">DTID 1701 "Imaging Study Quality"</a>	1	U		\$ImageQualityControlStandard= <a href="#">BCID 6353 "Prostate Imaging Types of Quality Control Standard"</a> \$StudyQualityFindings= <a href="#">BCID 6314 "Prostate MRI Study Quality Findings"</a> \$SeriesQualityFindings= <a href="#">BCID 6315 "Prostate MRI Series Quality Findings"</a>
12	>	CONTAINS	INCLUDE	<a href="#">DTID 4302 "Prostate Imaging Findings"</a>	1	M		

### TID 4302 Prostate Imaging Findings

Summary of the findings identified in the process of review of prostate imaging study. The container shall include measurement of the prostate gland and at least one localized finding.

**Type:**

**Extensible**

**Order:**

**Significant**

Root:

No

**Table TID 4302. Prostate Imaging Findings**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (130553, DCM, "Prostate Imaging Findings")	1	M		
2	>	CONTAINS	INCLUDE	<a href="#">DTID 4303</a> "Overall Prostate Finding"	1	M		
3	>	CONTAINS	INCLUDE	<a href="#">DTID 4304</a> "Localized Prostate Finding"	1-n	M		
4	>	CONTAINS	INCLUDE	<a href="#">DTID 4305</a> "Extra-prostatic Finding"	1-n	U		
5	>	CONTAINS	CODE	EV ( <a href="#">111005</a> , DCM, "Assessment category")	1	MC	XOR Row 6. At least one of rows 5,6,7 shall be present.	<a href="#">BCID 6324</a> "Prostate MRI Assessment"
6	>	CONTAINS	CODE	EV ( <a href="#">RID50294</a> , RADLEX, "PI-RADS Overall Assessment Category")	1	MC	XOR Row 5. At least one of	<a href="#">BCID 6325</a> "Overall Assessment from PI-RADS®"

							rows 5,6,7 shall be present.	
7	>	CONTAINS	TEXT	EV ( <a href="#">121106, DCM, "Comment"</a> )	1	MC	At least one of rows 5,6,7 shall be present.	

**Content Item Descriptions**

Rows 5 and 6	Row 5 can be used to assign an assessment category using an assessment other than PI-RADS®. If PI-RADS® is used for the assessment, row 6 should be used.
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**TID 4303 Overall Prostate Finding**

Summary of the overall assessment of the prostate gland, peripheral and transitional zone in separate container instantiations. Prostate gland assessment must include size measurements.

**Type:**

**Extensible**

**Order:**

**Significant**

**Root:**

**No**

**Table TID 4303. Overall Prostate Finding**

	N L	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (130554, DCM, "Overall	1	M		

				Prostate Finding")				
2	>	HAS OBS CONTEXT	TEXT	<a href="#">DT (112039, DCM, "Tracking Identifier")</a>	1	M		
3	>	HAS OBS CONTEXT	UIDREF	<a href="#">EV (112040, DCM, "Tracking Unique Identifier")</a>	1	M		
4	>	CONTAINS	CODE	<a href="#">EV (121071, DCM, "Finding")</a>	1	M		<a href="#">EV (255503000, SCT, "Entire")</a>
5	>	HAS CONCEPT MOD	CODE	<a href="#">EV (363698007, SCT, "Finding Site")</a>	1	M		<a href="#">EV (41216001, SCT, "Prostate")</a>
6	>	CONTAINS	INCLUDE	<a href="#">DTID 3909 "Best Illustration of Finding"</a>	1-n	U		
7	>	CONTAINS	INCLUDE	<a href="#">DTID 1410 "Planar ROI Measurements and Qualitative Evaluations"</a>	1-n	MC	IF Rows 8, 9 are absent	<a href="#">\$Measurement = BCID 218 "Quantitative Image Features"</a> <a href="#">\$Units = BCID 7181 "Abstract Multi-dimensional Image Model Component Units"</a> <a href="#">\$Derivation = BCID 7464 "General Region of Interest Measurement Modifiers"</a> <a href="#">\$Method = BCID 6147 "Response"</a>

								<p><u>Criteria</u></p> <p>\$FindingType = Value of Row 4</p> <p>\$TargetSite = Value of Row 5</p> <p>\$TrackingID = Value of Row 2</p> <p>\$TrackingUID = Value of Row 3</p> <p>\$QualType = <a href="#">BCID 6333</a> "<a href="#">mpMRI Assessment Types</a>"</p> <p><a href="#">\$QualValue = BCID 6335</a> "<a href="#">mpMRI Assessment Values</a>"</p>
8	>	CONTAINS	INCLUDE	<a href="#">DTID 1411</a> " <a href="#">Volumetric ROI Measurements and Qualitative Evaluations</a> "	1-n	MC	IF Rows 7, 9 are absent	<p>\$Measurement = DT (<a href="#">118565006</a>, <a href="#">SCT</a>, "<a href="#">Volume</a>")</p> <p>\$Units = <a href="#">DCID 7462</a> "<a href="#">Units of Volume Measurement</a>"</p> <p>\$FindingType = Value of Row 4</p> <p>\$TargetSite = Value of Row 5</p> <p>\$TrackingID = Value of Row 2</p>

								<p>\$TrackingUID = Value of Row 3</p> <p>\$QualType = <a href="#">BCID 6333</a> “<a href="#">mpMRI Assessment Types</a>”</p> <p>\$QualValue = <a href="#">BCID 6335</a> “<a href="#">mpMRI Assessment Values</a>”</p>
9	>	CONTAINS	INCLUDE	<a href="#">DTID 1501</a> “ <a href="#">Measurement and Qualitative Evaluation Group</a> ”	1-n	MC	IF Rows 7, 8 are absent	<p>\$Measurement = <a href="#">BCID 218</a> “<a href="#">Quantitative Image Features</a>”</p> <p>\$Units = <a href="#">BCID 7181</a> “<a href="#">Abstract Multi-dimensional Image Model Component Units</a>”</p> <p>\$FindingType = Value of Row 4</p> <p>\$TargetSite = Value of Row 5</p> <p>\$TrackingID = Value of Row 2</p> <p>\$TrackingUID = Value of Row 3</p> <p>\$QualType = <a href="#">BCID 6333</a> “<a href="#">mpMRI Assessment Types</a>”</p>



								<a href="#">\$QualValue = BCID 6335 "mpMRI Assessment Values"</a>  <a href="#">\$ImagePurpose = EV (260753009, SCT, "Source")</a>
10	>	CONTAINS	CONTAINER	<a href="#">BCID 6300 "Prostate Anatomy"</a>	1-n	U		
11	>>	CONTAINS	TEXT	<a href="#">BCID 6333 "mpMRI Assessment Types"</a>	1-n	U		
12	>>	CONTAINS	CODE	<a href="#">BCID 6333 "mpMRI Assessment Types"</a>	1-n	U		<a href="#">BCID 6335 "mpMRI Assessment Values"</a>

**Content Item Descriptions**

Rows 10-12	These rows are used to describe non-localized findings within the prostate gland (i.e., those that can be described by referring to a specific anatomic part of the gland, but which are not annotated on the image).
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**TID 4304 Localized Prostate Finding**

A single finding within the prostate gland. A single instantiation of this container allows to include annotations of the lesion in various series, and includes the optional characterization of the lesion following PI-RADS® guidelines.

**Type:**

**Extensible**

**Order:**

**Significant**

**Root:**

No

**Table TID 4304. Localized Prostate Finding**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (130555, DCM, "Localized Prostate Finding")	1	M		
2	>	HAS OBS CONTEXT	TEXT	DT ( <a href="#">112039</a> , DCM, "Tracking Identifier")	1	M		
3	>	HAS OBS CONTEXT	UIDREF	EV ( <a href="#">112040</a> , DCM, "Tracking Unique Identifier")	1	M		
4	>	CONTAINS	CODE	EV ( <a href="#">121071</a> , DCM, "Finding")	1	M		<a href="#">BCID 6336</a> "MRI Abnormalities"
5	>	HAS CONCEPT MOD	CODE	EV ( <a href="#">363698007</a> , SCT, "Finding Site")	1-n	M		<a href="#">BCID 6300</a> "Prostate Sector Anatomy"
6	>>	HAS CONCEPT MOD	CODE	EV ( <a href="#">272741003</a> , SCT, "Laterality")	1	U		<a href="#">DCID 244</a> "Laterality"
7	>>	HAS CONCEPT MOD	CODE	DT ( <a href="#">106233006</a> , SCT, "Topographical modifier")	1	U		
8	>	CONTAINS	INCLUDE	<a href="#">DTID 3909</a> "Best Illustration of Finding"	1-n	U		
9	>	CONTAINS	INCLUDE	<a href="#">DTID 1410</a> "Planar ROI Measurements"	1-n	MC	IF Rows 10, 11 are absent	\$Measurement = <a href="#">BCID 218</a> "Quantitative Image"

				<a href="#">and Qualitative Evaluations</a>				<a href="#">Features</a> \$Units = <a href="#">BCID 7181 "Abstract Multi-dimensional Image Model Component Units"</a> \$Derivation = <a href="#">BCID 7464 "General Region of Interest Measurement Modifiers"</a> \$Method = <a href="#">BCID 6147 "Response Criteria"</a> \$FindingType = Value of Row 4 \$TargetSite = Value of Row 5 \$TrackingID = Value of Row 2 \$TrackingUID = Value of Row 3 \$QualType = <a href="#">BCID 6333 "mpMRI Assessment Types"</a> \$QualValue = <a href="#">BCID 6335 "mpMRI Assessment Values"</a>
10	>	CONTAINS	INCLUDE	<a href="#">DTID 1411 "Volumetric</a>	1-n	MC	IF Rows 9, 11 are absent	\$Measurement = <a href="#">BCID 218 "Quantitative</a>

				<a href="#">ROI Measurements and Qualitative Evaluations</a>				<a href="#">Image Features</a> \$Units = <a href="#">BCID 7181 "Abstract Multi-dimensional Image Model Component Units"</a> \$Derivation = <a href="#">BCID 7464 "General Region of Interest Measurement Modifiers"</a> \$Method = <a href="#">BCID 6147 "Response Criteria"</a> \$FindingType = Value of Row 4 \$TargetSite = Value of Row 5 \$TrackingID = Value of Row 2 \$TrackingUID = Value of Row 3 \$QualType = <a href="#">BCID 6333 "mpMRI Assessment Types"</a> \$QualValue = <a href="#">BCID 6335 "mpMRI Assessment Values"</a>
11	>	CONTAINS	INCLUDE	<a href="#">DTID 1501</a>	1-n	MC	IF Rows 9, 10 are	\$Measurement = <a href="#">BCID 218</a>

				<a href="#">“Measurement and Qualitative Evaluation Group”</a>			absent	<a href="#">“Quantitative Image Features”</a> \$Units = <a href="#">BCID 7181 “Abstract Multi-dimensional Image Model Component Units”</a> \$Derivation = <a href="#">BCID 7464 “General Region of Interest Measurement Modifiers”</a> \$Method = <a href="#">BCID 6147 “Response Criteria”</a> \$FindingType = Value of Row 4 \$TargetSite = Value of Row 5 \$TrackingID = Value of Row 2 \$TrackingUID = Value of Row 3 \$QualType = <a href="#">BCID 6333 “mpMRI Assessment Types”</a> \$QualValue = <a href="#">BCID 6335 “mpMRI Assessment Values”</a> \$ImagePurpose = EV
--	--	--	--	--	--	--	--------	---

								(260753009, SCT, "Source")
12	>	CONTAINS	CONTAINER	EV ( <a href="#">C0034375</a> , <a href="#">UMLS</a> , "Qualitative Evaluations")	1	U		
13	>>	CONTAINS	CODE	<a href="#">DCID 6333</a> "mpMRI Assessment Types"	1-n	U		<a href="#">BCID 6335</a> "mpMRI Assessment Values"
14	>>	CONTAINS	TEXT	<a href="#">DCID 6333</a> "mpMRI Assessment Types"	1-n	U		
15	>	CONTAINS	CONTAINER	EV (130556,DCM, "Prostate relational measurements")	1	U		
16	>>	CONTAINS	INCLUDE	<a href="#">DTID 300</a> "Measurement" -	1-n	U		\$Measurement = <a href="#">BCID 6351</a> "Prostate Relational Measurements"
17	>	CONTAINS	INCLUDE	<a href="#">DTID 4306</a> "PI-RADS®Localized Abnormality Assessment"	1	U		

**Content Item Descriptions**

Row 5	More than one site may be listed if the lesion spans multiple regions that do not have a single pre-coordinated representation.
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**TID 4305 Extra-prostatic Finding**

This template can be used to report abnormal lymph nodes and skeletal metastases as part of prostate MRI report. At least bi-dimensional measurement of suspicious lymph nodes is recommended. Organization of the sub-parts of the template corresponding to lymph nodes and skeletal metastases is similar, with the exception that lymph nodes section is parameterized with [CID 7600 "Lymph Node Anatomic Sites"](#) for \$TargetSite.

Type:

Extensible

Order:

Significant

Root:

No

Table TID 4305. Extra-prostatic Finding

	N L	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (130559, DCM, "Extra-prostatic Finding")	1	U		
2	>	HAS OBS CONTEXT	TEXT	DT ( <a href="#">112039</a> , DCM, "Tracking Identifier")	1	U		
3	>	HAS OBS CONTEXT	UIDREF	EV ( <a href="#">112040</a> , DCM, "Tracking Unique Identifier")	1	U		
4	>	CONTAINS	CODE	EV ( <a href="#">121071</a> , DCM, "Finding")	1	U		<a href="#">BCID 6347</a> "Prostate MRI Extra-Prostatic findings"
5	>	HAS CONCEPT MOD	CODE	EV ( <a href="#">363698007</a> , SCT, "Finding Site")	1-n	U		<a href="#">BCID 7600</a> "Lymph Node Anatomic Sites" <a href="#">BCID 6348</a> "Prostate MRI Assessment of Extra-prostatic Anatomic"

								<u>Sites</u>
6	>>	HAS CONCEPT MOD	CODE	EV <a href="#">(272741003, SCT, "Laterality")</a>	1	U		<a href="#">DCID 244 "Laterality"</a>
7	>>	HAS CONCEPT MOD	CODE	DT <a href="#">(106233006, SCT, "Topographical modifier")</a>	1	U		
8	>	CONTAINS	INCLUDE	<a href="#">DTID 3909 "Best Illustration of Finding"</a>	1-n	U		
9	>	CONTAINS	INCLUDE	<a href="#">DTID 1410 "Planar ROI Measurements and Qualitative Evaluations"</a>	1-n	U		<p>\$Measurement = <a href="#">BCID 218 "Quantitative Image Features"</a></p> <p>\$Units = <a href="#">BCID 7181 "Abstract Multi-dimensional Image Model Component Units"</a></p> <p>\$Derivation = <a href="#">BCID 7464 "General Region of Interest Measurement Modifiers"</a></p> <p>\$Method = <a href="#">BCID 6147 "Response Criteria"</a></p> <p>\$FindingType = Value of Row 4</p> <p>\$TargetSite = Value of Row 5</p> <p>\$TrackingID = Value of Row 2</p>



								<p>\$TrackingUID = Value of Row 3</p> <p>\$QualType = <a href="#">BCID 6333</a> "mpMRI Assessment Types"</p> <p>\$QualValue = <a href="#">BCID 6335</a> "mpMRI Assessment Values"</p>
10	>	CONTAINS	INCLUDE	<a href="#">DTID 1411</a> "Volumetric ROI Measurements and Qualitative Evaluations"	1-n	U		<p>\$Measurement = <a href="#">BCID 218</a> "Quantitative Image Features"</p> <p>\$Units = <a href="#">BCID 7181</a> "Abstract Multi-dimensional Image Model Component Units"</p> <p>\$Derivation = <a href="#">BCID 7464</a> "General Region of Interest Measurement Modifiers"</p> <p>\$Method = <a href="#">BCID 6147</a> "Response Criteria"</p> <p>\$FindingType = Value of Row 4</p> <p>\$TargetSite = Value of Row 5</p> <p>\$TrackingID = Value of Row</p>

								<p>2</p> <p>\$TrackingUID = Value of Row 3</p> <p>\$QualType = <a href="#">BCID 6333</a> “<a href="#">mpMRI Assessment Types</a>”</p> <p>\$QualValue = <a href="#">BCID 6335</a> “<a href="#">mpMRI Assessment Values</a>”</p>
11	>	CONTAINS	INCLUDE	<a href="#">DTID 1501</a> “ <a href="#">Measurement and Qualitative Evaluation Group</a> ”	1-n	U		<p>\$Measurement = <a href="#">BCID 218</a> “<a href="#">Quantitative Image Features</a>”</p> <p>\$Units = <a href="#">BCID 7181</a> “<a href="#">Abstract Multi-dimensional Image Model Component Units</a>”</p> <p>\$Derivation = <a href="#">BCID 7464</a> “<a href="#">General Region of Interest Measurement Modifiers</a>”</p> <p>\$Method = <a href="#">BCID 6147</a> “<a href="#">Response Criteria</a>”</p> <p>\$FindingType = Value of Row 4</p> <p>\$TargetSite = Value of Row 5</p> <p>\$TrackingID =</p>

								Value of Row 2  \$TrackingUID = Value of Row 3  \$QualType = <a href="#">BCID 6333 "mpMRI Assessment Types"</a>  \$QualValue = <a href="#">BCID 6335 "mpMRI Assessment Values"</a>  \$ImagePurpose = EV ( <a href="#">260753009, SCT, "Source"</a> )
12	>	CONTAINS	CONTAINER	EV ( <a href="#">C0034375, UMLS, "Qualitative Evaluations"</a> )	1	U		
13	>>	CONTAINS	CODE	<a href="#">DCID 6333 "mpMRI Assessment Types"</a>	1-n	U		<a href="#">BCID 6335 "mpMRI Assessment Values"</a>
14	>>	CONTAINS	TEXT	<a href="#">DCID 6333 "mpMRI Assessment Types"</a>	1-n	U		

**TID 4306 PI-RADS® Localized Abnormality Assessment**

This template stores PI-RADS® assessment for all analyzed modalities, with the references to the annotations in the individual modalities. Assessment is not specific to lesions, since it can also be used to assess additional findings, including definitely benign findings.

When lesions are identified, only one lesion shall be designated as "Index lesion".

**Type:**

**Extensible**

**Order:**

**Significant**

**Root:**

**No**

**Table TID 4306. PI-RADS® Localized Abnormality Assessment**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (130560, DCM, "PI-RADS Localized Abnormality Assessment")	1	M		
2	>	CONTAINS	CODE	EV (C110961, NCIt, "Index lesion")	1	M		<a href="#">DCID 231 "Yes-No Only"</a>
3	>	CONTAINS	CONTAINER	EV (130561, DCM, "PI-RADS T2WI Lesion Assessment")	1	M		
4	>>	CONTAINS	CODE	EV ( <a href="#">RID50301</a> , <a href="#">RADLEX</a> , "PI-RADS T2WI PZ Lesion Assessment Category")	1	MC	XOR Row 5	<a href="#">CID 6329 "PI-RADS® v2 T2WI PZ Lesion Assessment Category"</a>
5	>>	CONTAINS	CODE	EV ( <a href="#">RID50307</a> , <a href="#">RADLEX</a> , "PI-RADS T2WI TZ Lesion Assessment Category")	1	MC	XOR Row 4	<a href="#">CID 6330 "PI-RADS® v2 T2WI TZ Lesion Assessment Category"</a>
6	>>	CONTAINS	CODE	<a href="#">DCID 6334</a> "mpMRI Assessment Types from	1-n	U		<a href="#">BCID 6335</a> "mpMRI Assessment Values"

				<a href="#">PI-RADS®</a>				
7	>>	CONTAINS	TEXT	<a href="#">DCID 6334</a> <a href="#">“mpMRI</a> <a href="#">Assessment</a> <a href="#">Types from</a> <a href="#">PI-RADS®</a> ”	1-n	U		
8	>	CONTAINS	CONTAINER	EV (130562, DCM, “PI- RADS DWI Lesion Assessment”)	1	M		
9	>>	CONTAINS	CODE	EV ( <a href="#">RID50313</a> , <a href="#">RADLEX</a> , “ <a href="#">PI- RADS DWI</a> <a href="#">Lesion</a> <a href="#">Assessment</a> <a href="#">Category</a> ”)	1	M		<a href="#">CID 6331 “PI- RADS® v2 DWI Lesion Assessment Category”</a>
10	>>	CONTAINS	CODE	<a href="#">DCID 6334</a> <a href="#">“mpMRI</a> <a href="#">Assessment</a> <a href="#">Types from</a> <a href="#">PI-RADS®</a> ”	1-n	U		<a href="#">BCID 6335</a> <a href="#">“mpMRI</a> <a href="#">Assessment</a> <a href="#">Values”</a>
11	>>	CONTAINS	TEXT	<a href="#">DCID 6334</a> <a href="#">“mpMRI</a> <a href="#">Assessment</a> <a href="#">Types from</a> <a href="#">PI-RADS®</a> ”	1-n	U		
12	>	CONTAINS	CONTAINER	EV (130563, DCM, “PI- RADS DCE Lesion Assessment”)	1	M		
13	>>	CONTAINS	CODE	EV ( <a href="#">RID50319</a> , <a href="#">RADLEX</a> , “ <a href="#">PI- RADS DCE</a> <a href="#">Lesion</a> <a href="#">Assessment</a> <a href="#">Category</a> ”)	1	M		<a href="#">CID 6332 “PI- RADS® v2 DCE Lesion Assessment Category”</a>
14	>>	CONTAINS	CODE	<a href="#">DCID 6334</a> <a href="#">“mpMRI</a> <a href="#">Assessment</a> <a href="#">Types from</a> <a href="#">PI-RADS®</a> ”	1-n	U		<a href="#">BCID 6335</a> <a href="#">“mpMRI</a> <a href="#">Assessment</a> <a href="#">Values”</a>
15	>>	CONTAINS	TEXT	<a href="#">DCID 6334</a>	1-n	U		

				<a href="#">“mpMRI Assessment Types from PI-RADS®”</a>				
16	>	CONTAINS	CODE	EV (RID50295, RADLEX, “PI-RADS Lesion Assessment Category”)	1	M		<a href="#">CID 6328 “PI-RADS® v2 Lesion Assessment Category”</a>
17	>	CONTAINS	CODE	<a href="#">DCID 6334 “mpMRI Assessment Types from PI-RADS®”</a>	1-n	U		<a href="#">BCID 6335 “mpMRI Assessment Values”</a>
18	>	CONTAINS	TEXT	<a href="#">DCID 6334 “mpMRI Assessment Types from PI-RADS®”</a>	1-n	U		

**Content Item Descriptions**

Rows 7, 11, 15, 18	The intent of those content items is to allow for communication of information that cannot be coded in the preceding CODE content items, and not to replicate the CODE items.
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**Annex B DCMR Context Groups (Normative)**

***Amend existing Context Groups:***

**CID 12 Radiographic Contrast Agent**

Type:

**Extensible**

Version:

**2021032820210714**

**Table CID 12. Radiographic Contrast Agent**

Coding	Code Value	Code Meaning	SNOMED-RT	UMLS Concept	Trade name
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Scheme Designator			ID	Unique ID	(Informative)
<u>SCT</u>	<a href="#">407976008</a>	<u>Gadobutrol</u>	<u>C-B0415</u>	<u>C0291216</u>	<u>Gadavist®</u>

Add new Context Groups to PS 3.16 Annex B

### CID 6310 Prostate Reporting Systems

Type:

Extensible

Version:

20210714

Table CID 6310. Prostate Reporting Systems

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
DCM	130564	PI-RADS v2.0		
DCM	130565	PI-RADS v2.1		

### CID 6311 MR Signal Intensity

This context group contains terms specific to describing the types of MR sequences used in mpMRI of the prostate.

Note

- Imaging findings will be applicable for indications other than PI-RADS® disease assessment.

Type:

Extensible

Version:

20210714

Table CID 6311. MR Signal Intensity

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
DCM	<a href="#">110805</a>	T2 Weighted MR Signal Intensity		
DCM	<a href="#">113043</a>	Diffusion weighted		
DCM	130566	Diffusion-weighted Acquisition Highest b-value image		
DCM	130567	Dynamic Contrast-Enhanced Acquisition		
DCM	130568	Dynamic Contrast-Enhanced Acquisition Subtraction image		
DCM	<a href="#">110804</a>	T1 Weighted MR Signal Intensity		
DCM	<a href="#">113041</a>	Apparent Diffusion Coefficient		

#### CID 6312 Cross-sectional Scan Plane Orientation

This context group contains terms to conveniently and explicitly describe scan plane orientation used for a specific acquisition type.

**Type:**

**Extensible**

**Version:**

**20210714**

**Table CID 6312. Cross-sectional Scan Plane Orientation**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
SCT	<a href="#">30730003</a>	Sagittal		
SCT	<a href="#">24422004</a>	Axial		
SCT	<a href="#">81654009</a>	Coronal		



SCT	<a href="#">21114003</a>	Oblique		
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**CID 6313 History of Prostate Disease**

Type:

Extensible

Version:

20210714

**Table CID 6313. History of Prostate Disease**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
SCT	<a href="#">9713002</a>	Prostatitis		
SCT	<a href="#">254900004</a>	Prostate cancer		
SCT	<a href="#">444808002</a>	Benign Prostate Hyperplasia		
DCM	130569	Utricle cyst		

**CID 6314 Prostate MRI Study Quality Findings**

Type:

Extensible

Version:

20210714

**Table CID 6314. Prostate MRI Study Quality Findings**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
DCM	130570	Protocol not followed		
DCM	130571	Coil placement concern		

DCM	130572	Coil selection concern		
DCM	130573	Study performed did not match request		
DCM	130574	Incomplete study		
DCM	130575	Suboptimal patient preparation		
RADLEX	<a href="#">RID11281</a>	Suboptimal patient positioning		

**CID 6315 Prostate MRI Series Quality Findings**

Type:

**Extensible**

Version:

**20210714**

**Table CID 6315. Prostate MRI Series Quality Findings**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
DCM	130576	Anatomy coverage incomplete		
DCM	130577	Poor FOV selection		
DCM	130578	Poor SNR		
<i>Include CID 6316 MR Imaging Artifacts</i>				
<i>Include CID 6317 Prostate DCE MRI Quality Findings</i>				
<i>Include CID 6318 Prostate DWI MRI Quality Findings</i>				

**CID 6316 MR Imaging Artifacts**

Type:

**Extensible**

Version:

20210714

**Table CID 6316. MR Imaging Artifacts**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
RADLEX	<a href="#">RID11423</a>	Motion related artifact		
RADLEX	<a href="#">RID11395</a>	Phase wraparound artifact		
RADLEX	<a href="#">RID11424</a>	Smearing		
RADLEX	<a href="#">RID11426</a>	Ghost		
RADLEX	<a href="#">RID11372</a>	Tissue magnetic susceptibility effect		
RADLEX	<a href="#">RID11370</a>	Ferromagnetic implant magnetic susceptibility effect		
RADLEX	<a href="#">RID11408</a>	Non-uniform signal intensity artifact		
RADLEX	<a href="#">RID11464</a>	Parallel imaging artifact		
RADLEX	<a href="#">RID11374</a>	Chemical shift artifact		

**CID 6317 Prostate DCE MRI Quality Findings**

Type:

Extensible

Version:

20210714

**Table CID 6317. Prostate DCE MRI Quality Findings**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
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DCM	130579	Poor contrast timing		
DCM	130580	Inadequate contrast enhancement		
DCM	130581	Subtraction image missing		
DCM	130582	Unwanted subtraction images		

**CID 6318 Prostate DWI MRI Quality Findings**

**Type:**

**Extensible**

**Version:**

**20210714**

**Table CID 6318. Prostate DWI MRI Quality Findings**

<b>Coding Scheme Designator</b>	<b>Code Value</b>	<b>Code Meaning</b>	<b>SNOMED-RT ID</b>	<b>UMLS Concept Unique ID</b>
DCM	130583	Expected b-value is missing		
DCM	130584	Severe distortion in the area of interest		
DCM	130585	Expected ADC map is missing		
DCM	130586	Distortion artifact in the area of interest		

**CID 6319 Abdominal Intervention Types**

**Type:**

**Extensible**

**Version:**

**20210714**

**Table CID 6319. Abdominal Intervention Types**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
SCT	<a href="#">387713003</a>	Surgical procedure		
SCT	<a href="#">103693007</a>	Diagnostic procedure		
SCT	<a href="#">277132007</a>	Therapeutic procedure		

**CID 6320 Abdominal Interventions**

Type:

Extensible

Version:

20210714

**Table CID 6320. Abdominal Interventions**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
SCT	<a href="#">12745006</a>	Operative procedure on pelvis		
SCT	<a href="#">90470006</a>	Prostatectomy		
NCIt	<a href="#">C15215</a>	Cryoablation		
NCIt	<a href="#">C131483</a>	Irreversible electroporation		
NCIt	<a href="#">C68681</a>	Focused ultrasound ablation		

**CID 6321 Prostate Cancer Diagnostic Procedures**

Type:

Extensible

Version:

20210714

**Table CID 6321. Prostate Cancer Diagnostic Procedures**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
SCT	<a href="#">63476009</a>	Prostate Cancer Antigen Measurement		
SCT	<a href="#">410006001</a>	Digital Examination of Rectum		

**CID 6322 Prostate Cancer Family History**

Type:

Extensible

Version:

20210714

**Table CID 6322. Prostate Cancer Family History**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
DCM	<a href="#">111562</a>	Family history of prostate cancer		
DCM	130587	No family history of prostate cancer		
SCT	<a href="#">407559004</a>	Family history unknown		

**CID 6323 Prostate Cancer Therapy**

Type:

Extensible

Version:

20210714

**Table CID 6323. Prostate Cancer Therapy**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
SCT	<a href="#">707266006</a>	Androgen Deprivation Therapy		
SCT	<a href="#">425767004</a>	Implantation of radioactive seed into prostate		
SCT	<a href="#">90470006</a>	Prostatectomy		

### CID 6324 Prostate MRI Assessment

**Note**

*In future extensions, MRI Assessment terms that are not derived from PI-RADS® should be added to this group (such as Likert scale and PI-RADS® v1, e.g., see [Rozenkrantz 2013]).*

**Type:**

**Extensible**

**Version:**

**20210714**

**Table CID 6324. Prostate MRI Assessment**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
<i>Include <a href="#">CID 6325 “Overall assessment from PI-RADS®”</a></i>				

### CID 6325 Overall Assessment from PI-RADS®

**Type:**

**Non-Extensible**

**Version:**

**20210714**

**Table CID 6325. Overall Assessment from PI-RADS®**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
RADLEX	<a href="#">RID50289</a>	PI-RADS 1 - Very low		
RADLEX	<a href="#">RID50290</a>	PI-RADS 2 - Low		
RADLEX	<a href="#">RID50291</a>	PI-RADS 3 - Intermediate		
RADLEX	<a href="#">RID50292</a>	PI-RADS 4 - High		
RADLEX	<a href="#">RID50293</a>	PI-RADS 5 - Very high		
RADLEX	<a href="#">RID50322</a>	PI-RADS X - Inadequate or absent		

**CID 6326 Image Quality Control Standards**

Type:

**Extensible**

Version:

**20210714**

**Table CID 6326. Image Quality Control Standards**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
DCM	<a href="#">111240</a>	Institutionally defined quality control standard		
<i>Include CID 6353. Prostate Imaging Types of Quality Control Standard</i>				
<i>Include CID 6045. Mammography Types of Quality Control Standard</i>				



### CID 6327 Prostate Imaging Indications

This CID contains terms that are used by TID 4300 to describe the intent for the imaging procedure.

**Type:**

**Extensible**

**Version:**

**20210714**

**Table CID 6327. Prostate Imaging Indications**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
DCM	130589	Active surveillance of prostate cancer		
DCM	<a href="#">111562</a>	Family history of prostate cancer		
SCT	<a href="#">373825000</a>	Staging		
DCM	130590	Assess change		
I10	<a href="#">R97.20</a>	Elevated Prostate Specific Antigen		
DCM	<a href="#">111418</a>	Review of an outside study		
SCT	<a href="#">384692006</a>	Brachytherapy		<a href="#">C0006098</a>
DCM	130588	Pre-biopsy localization of prostate lesion		

### CID 6328 PI-RADS® v2 Lesion Assessment Category

The codes in this Context Group describe the overall lesion assessment, based on assessment of the individual image types considered in the evaluation.

#### Notes

- The use of “Lesion” as opposed to “Finding” is done to follow the conventions already implemented in RADLEX.

**Type:**

**Non-Extensible**

**Version:**

**20210714**

**Table CID 6328. PI-RADS® v2 Lesion Assessment Category**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
RADLEX	RID50296	PI-RADS 1 - Very low (lesion)		
RADLEX	RID50297	PI-RADS 2 - Low (lesion)		
RADLEX	RID50298	PI-RADS 3 - Intermediate (lesion)		
RADLEX	RID50299	PI-RADS 4 - High (lesion)		
RADLEX	RID50300	PI-RADS 5 - Very high (lesion)		
RADLEX	RID50323	PI-RADS X - Inadequate or absent (lesion)		

**CID 6329 PI-RADS® v2 T2WI PZ Lesion Assessment Category**

The codes in this CID describe lesion assessment in T2-weighted MR images for the lesions located in the peripheral zone of the prostate.

**Type:**

**Non-Extensible**

**Version:**

**20210714**

**Table CID 6329. PI-RADS® v2 T2WI PZ Lesion Assessment Category**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
RADLEX	<a href="#">RID50302</a>	PI-RADS 1 - T2WI PZ Very low		
RADLEX	<a href="#">RID50303</a>	PI-RADS 2 - T2WI PZ Low		
RADLEX	<a href="#">RID50304</a>	PI-RADS 3 - T2WI PZ Intermediate		
RADLEX	<a href="#">RID50305</a>	PI-RADS 4 - T2WI PZ High		
RADLEX	<a href="#">RID50306</a>	PI-RADS 5 - T2WI PZ Very high		
RADLEX	<a href="#">RID50324</a>	PI-RADS X - T2WI PZ Inadequate or absent		

**CID 6330 PI-RADS® v2 T2WI TZ Lesion Assessment Category**

The codes in this CID describe lesion assessment in T2-weighted MR images for the lesions located in the transitional zone of the prostate.

**Type:**

**Non-Extensible**

**Version:**

**20210714**

**Table CID 6330. PI-RADS® v2 T2WI TZ Lesion Assessment Category**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
RADLEX	<a href="#">RID50308</a>	PI-RADS 1 - T2WI TZ Very low		
RADLEX	<a href="#">RID50309</a>	PI-RADS 2 - T2WI TZ Low		
RADLEX	<a href="#">RID50310</a>	PI-RADS 3 - T2WI TZ Intermediate		
RADLEX	<a href="#">RID50311</a>	PI-RADS 4 - T2WI TZ High		

RADLEX	<a href="#">RID50312</a>	PI-RADS 5 - T2WI TZ Very high		
RADLEX	<a href="#">RID50325</a>	PI-RADS X - T2WI TZ Inadequate or absent		

**CID 6331 PI-RADS® v2 DWI Lesion Assessment Category**

The codes in this CID describe lesion assessment in diffusion-weighted MR images.

**Type:**

**Non-Extensible**

**Version:**

**20210714**

**Table CID 6331. PI-RADS® v2 DWI PZ Lesion Assessment Category**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
RADLEX	<a href="#">RID50314</a>	PI-RADS 1 - DWI Very low		
RADLEX	<a href="#">RID50315</a>	PI-RADS 2 - DWI Low		
RADLEX	<a href="#">RID50316</a>	PI-RADS 3 - DWI Intermediate		
RADLEX	<a href="#">RID50317</a>	PI-RADS 4 - DWI High		
RADLEX	<a href="#">RID50318</a>	PI-RADS 5 - DWI Very high		
RADLEX	<a href="#">RID50326</a>	PI-RADS X - DWI Inadequate or absent		

**CID 6332 PI-RADS® v2 DCE Lesion Assessment Category**

The codes in this CID describe lesion assessment in the dynamic contrast-enhanced MR images.

**Type:**

**Extensible**

**Version:**

**20210714**

**Table CID 6332. PI-RADS® v2 DCE Lesion Assessment Category**

<b>Coding Scheme Designator</b>	<b>Code Value</b>	<b>Code Meaning</b>	<b>SNOMED-RT ID</b>	<b>UMLS Concept Unique ID</b>
RADLEX	<a href="#">RID50320</a>	PI-RADS DCE -ve		
RADLEX	<a href="#">RID50321</a>	PI-RADS DCE +ve		
RADLEX	<a href="#">RID50327</a>	PI-RADS X - DCE Inadequate or absent		

**CID 6333 mpMRI Assessment Types**

**Type:**

**Extensible**

**Version:**

**20210714**

**Table CID 6333. mpMRI Assessment Types**

<b>Coding Scheme Designator</b>	<b>Code Value</b>	<b>Code Meaning</b>	<b>SNOMED-RT ID</b>	<b>UMLS Concept Unique ID</b>
<i>Include CID 6334 "mpMRI Assessment Types from PI-RADS®"</i>				

**CID 6334 mpMRI Assessment Types from PI-RADS®**

**Type:**

**Extensible**

**Version:**

**20210714**

**Table CID 6334. mpMRI Assessment Types from PI-RADS®**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID	mpMRI Assessment Values
NCIt	C9440	Abnormality			<a href="#">CID 6336 “MRI Abnormalities”</a>
SCT	300842002	Shape			<a href="#">CID 6339 “MRI Shape Characteristics”</a>
DCM	111037	Margin			<a href="#">CID 6341 “MRI Margin Characteristics”</a>
RADLEX	<a href="#">RID6049</a>	Signal characteristic			<a href="#">CID 6343 “MRI Signal Characteristics”</a>
RADLEX	<a href="#">RID6058</a>	Enhancement pattern			<a href="#">CID 6345 “MRI Enhancement Patterns”</a>

**CID 6335 mpMRI Assessment Values**

Type:

**Extensible**

Version:

**20210714**

**Table CID 6335. mpMRI Assessment Values**

Coding Scheme Designator	Code Value	Code Meaning
		Include <a href="#">CID 6336 “MRI Abnormalities”</a>
		Include <a href="#">CID 6339 “MRI Shape Characteristics”</a>
		Include <a href="#">CID 6341 “MRI Margin Characteristics”</a>

Include [CID 6343 “MRI Signal Characteristics”](#)

Include [CID 6345 “MRI Enhancement Patterns”](#)

### CID 6336 MRI Abnormalities

Malignant or benign abnormalities that can be identified from mpMRI.

Type:

Extensible

Version:

20210714

**Table CID 6336 MRI Abnormalities**

Coding Scheme Designator	Code Value	Code Meaning
Include <a href="#">CID 6337 “mpMRI Prostate Abnormalities from PI-RADS®”</a>		

### CID 6337 mpMRI Prostate Abnormalities from PI-RADS®

The list of abnormalities includes both those that are explicitly mentioned in the PI-RADS® v2 lexicon (Appendix III), and the benign abnormalities that are listed in the Weinreb et al. manuscript [PI-RADS].

Type:

Extensible

Version:

20210714

**Table CID 6337 mpMRI Prostate Abnormalities from PI-RADS®**

Coding Scheme Designator	Code Value	Code Meaning	RADLEX Code Value	UMLS Concept Unique ID
DCM	130591	Focal abnormality		
SCT	87017008	Focal	<a href="#">RID34301</a>	C0205234

NCIt	C110961	Index lesion	<a href="#">RID11517</a>	C3829547
SCT	52988006	Lesion	<a href="#">RID38780</a>	
SCT	4147007	Mass	<a href="#">RID3874</a>	
SCT	27925004	Nodule	<a href="#">RID3875</a>	
DCM	130592	Non-focal abnormality		
SCT	19648000	Diffuse	<a href="#">RID5701</a>	
SCT	524008	Multifocal	<a href="#">RID5703</a>	
SCT	410674003	Regional	<a href="#">RID34260</a>	
<i>Include CID 6338 "mpMRI Benign Prostate Abnormalities from PI-RADS®"</i>				

### CID 6338 mpMRI Benign Prostate Abnormalities from PI-RADS®

The list of benign abnormalities includes those in PI-RADS® listed in the Weinreb et al. manuscript [PI-RADS].

**Type:**

**Extensible**

**Version:**

**20210714**

**Table CID 6338 mpMRI Benign Prostate Abnormalities from PI-RADS®**

Coding Scheme Designator	Code Value	Code Meaning	RADLEX Code Value	UMLS Concept Unique ID
SCT	<a href="#">444808002</a>	Benign Prostate Hyperplasia		
SCT	<a href="#">50960005</a>	Hemorrhage		
SCT	367643001	Cyst	<a href="#">RID3890</a>	
SCT	<a href="#">18115005</a>	Pathologic calcification	<a href="#">RID5196</a>	C1533591
SCT	9713002	Prostatitis	<a href="#">RID3544</a>	
SCT	13331008	Atrophy	<a href="#">RID5046</a>	



SCT	112674009	Fibrosis	<a href="#">RID3820</a>	
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### CID 6339 MRI Shape Characteristics

Characteristics of shape that can be identified from mpMRI.

Type:

Extensible

Version:

20210714

**Table CID 6339. MRI Shape Characteristics**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
Include <a href="#">CID 6340 "Prostate MRI Shape Characteristics from PI-RADS®"</a>				

### CID 6340 Prostate MRI Shape Characteristics from PI-RADS®

Type:

Extensible

Version:

20210714

**Table CID 6340. Prostate MRI Shape Characteristics from PI-RADS®**

Coding Scheme Designator	Code Value	Code Meaning	RADLEX Code Value	UMLS Concept Unique ID
SCT	42700002	Round	<a href="#">RID5799</a>	
SCT	<a href="#">84360004</a>	Ovoid shape (Oval)		
RADLEX	<a href="#">RID49495</a>	Lenticular		
DCM	112135	Lobulated		
SCT	1312007	Drop-shaped	<a href="#">RID49496</a>	

SCT	20446002	Wedge-shaped	<a href="#">RID5812</a>	C0332503
DCM	112150	Linear	<a href="#">RID5811</a>	
SCT	49608001	Irregular	<a href="#">RID5809</a>	

Note: ([84360004](#), SCT, “Ovoid shape (Oval)”) is used in preference to the more specific ([129734009](#), SCT, “Oval shaped lesion”).

**CID 6341 MRI Margin Characteristics**

Type:

Extensible

Version:

20210714

**Table CID 6341. MRI Margin Characteristics**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
Include <a href="#">CID 6342 “Prostate MRI Margin Characteristics from PI-RADS®”</a>				

**CID 6342 Prostate MRI Margin Characteristics from PI-RADS®**

Type:

Extensible

Version:

20210714

**Table CID 6342. Prostate MRI Margin Characteristics from PI-RADS®**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID	RADLEX Code Value
SCT	<a href="#">129738007</a>	Circumscribed lesion			<a href="#">RID34279</a>

RADLEX	<a href="#">RID34355</a>	Non-circumscribed margin			
SCT	129741003	Indistinct lesion			<a href="#">RID5709</a>
SCT	129740002	Obscured lesion			<a href="#">RID5701</a>
SCT	49608001	Irregular			<a href="#">RID5715</a>
SCT	129742005	Spiculated lesion			<a href="#">RID5713</a>
SCT	59135002	Encapsulated			<a href="#">RID49498</a>
RADLEX	<a href="#">RID49497</a>	Erased charcoal sign			
DCM	130593	Partially encapsulated			
DCM	130594	Completely encapsulated			

**CID 6343 MRI Signal Characteristics**

**Type:**

**Extensible**

**Version:**

**20210714**

**Table CID 6343. MRI Signal Characteristics**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
Include <a href="#">CID 6344 "Prostate MRI Signal Characteristics from PI-RADS®"</a>				

**CID 6344 Prostate MRI Signal Characteristics from PI-RADS®**

Changes to the code meaning values as compared to Appendix III of PI-RADS® v2 were introduced to maintain consistency with the definitions of the codes in RADLEX.

**Type:**

**Extensible**

**Version:**

**20210714**

**Table CID 6344. Prostate MRI Signal Characteristics from PI-RADS®**

<b>Coding Scheme Designator</b>	<b>Code Value</b>	<b>Code Meaning</b>	<b>SNOMED-RT ID</b>	<b>UMLS Concept Unique ID</b>	<b>RADLEX Code Value</b>
RADLEX	<a href="#">RID35805</a>	Hyperintense			
RADLEX	<a href="#">RID39467</a>	T2 Hyperintensity			
RADLEX	<a href="#">RID6053</a>	Isointense			
RADLEX	<a href="#">RID35804</a>	Hypointense			
RADLEX	<a href="#">RID49500</a>	Markedly hypointense			
RADLEX	<a href="#">RID49501</a>	T2 hypointensity			
RADLEX	<a href="#">RID43349</a>	Restricted diffusion		C2826108	
RADLEX	<a href="#">RID39536</a>	Diffusion-weighted hypersensitivity			
DCM	130595	ADC Hyperintense			
DCM	130596	ADC Hypointense			
RADLEX	<a href="#">RID49499</a>	Organized chaos			
RADLEX	RID6060	Heterogeneous			

DCM	112160	Homogeneous			<a href="#">RID6059</a>
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**CID 6345 MRI Enhancement Patterns**

**Type:**

**Extensible**

**Version:**

**20210714**

**Table CID 6345. MRI Enhancement Patterns**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
Include <a href="#">CID 6346 “Prostate MRI Enhancement Patterns from PI-RADS®”</a>				

**CID 6346 Prostate MRI Enhancement Patterns from PI-RADS®**

**Type:**

**Extensible**

**Version:**

**20210714**

**Table CID 6346. Prostate MRI Enhancement Patterns from PI-RADS®**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
RADLEX	<a href="#">RID49530</a>	Early phase wash-in		
RADLEX	<a href="#">RID11081</a>	Delayed phase		
RADLEX	<a href="#">RID34331</a>	Persistent delayed phase		

DCM	130597	Persistent delayed phase: Type 1 curve		
RADLEX	<a href="#">RID34332</a>	Plateau delayed phase		
DCM	130598	Plateau delayed phase: Type 2 curve		
RADLEX	<a href="#">RID34333</a>	Washout delayed phase		
DCM	130599	Washout delayed phase: Type 3 curve		
DCM	130600	Positive DCE		
DCM	130601	Negative DCE		
DCM	122664	Late Contrast Enhancement		
DCM	130602	Early Contrast Enhancement		
DCM	130603	Diffuse Contrast Enhancement		
DCM	130604	Focal Contrast Enhancement		

**CID 6347 Prostate MRI Extra-prostatic Findings**

**Type:**

**Extensible**

**Version:**

**20210714**

**Table CID 6347. Prostate MRI Extra-prostatic Findings**

<b>Coding Scheme Designator</b>	<b>Code Value</b>	<b>Code Meaning</b>	<b>SNOMED-RT ID</b>	<b>UMLS Concept Unique ID</b>
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SCT	<a href="#">94222008</a>	Bony metastasis		
SCT	<a href="#">30746006</a>	Lymphadenopathy		
SCT	<a href="#">255503000</a>	Entire		

### CID 6348 Prostate MRI Assessment of Extra-prostatic Anatomic Sites

This Context Group includes codes for extra-prostatic areas that may be evaluated as part of the prostate MRI assessment and reporting process.

Type:

**Extensible**

Version:

**20210714**

**Table CID 6348. Prostate MRI Assessment of Extra-prostatic Anatomic Sites**

Coding Scheme Designator	Code Value	Code Meaning	RADLEX Code Value	UMLS Concept Unique ID
SCT	<a href="#">717027004</a>	Male external urethral sphincter	<a href="#">RID261</a>	
RADLEX	<a href="#">RID43492</a>	Neurovascular bundle of prostate		C0824497
SCT	<a href="#">64739004</a>	Seminal vesicle	<a href="#">RID357</a>	
SCT	<a href="#">59441001</a>	Lymph node	<a href="#">RID13296</a>	
SCT	<a href="#">34402009</a>	Rectum		

### CID 6349 MR Coil Types

Type:

**Extensible**

Version:

**20210714**

**Table CID 6349. MR Coil Types**

Coding Scheme	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept
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Designator				Unique ID
RADLEX	<a href="#">RID10809</a>	Endorectal coil		

**CID 6350 Endorectal Coil Fill Substances**

Type:

Extensible

Version:

20210714

**Table CID 6350. Endorectal Coil Fill Substances**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
SCT	<a href="#">15158005</a>	Air		
SCT	<a href="#">11713004</a>	Water		
DCM	130605	Perfluorocarbon		
RADLEX	<a href="#">RID11588</a>	Barium sulfate suspension		

**CID 6351 Prostate Relational Measurements**

Type:

Extensible

Version:

20210714

**Table CID 6351. Prostate Relational Measurements**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
DCM	130557	Distance from neurovascular bundle		
DCM	130558	Lesion capsular contact length		



**CID 6352 Prostate Cancer Diagnostic Blood Lab Measurements**

Type:

Extensible

Version:

20210714

**Table CID 6352. Prostate Cancer Diagnostic Blood Lab Measurements**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID	Units
LN	<a href="#">2857-1</a>	Prostate Cancer Antigen			(ng/mL, UCUM, "ng/mL")
LN	<a href="#">15325-4</a>	Prostate specific Antigen Density			({ratio}, UCUM, "ratio")
NCIt	<a href="#">C142184</a>	4Kscore			(%, UCUM, "%")

**CID 6353 Prostate Imaging Types of Quality Control Standard**

Type:

Extensible

Version:

20210714

**Table CID 6353. Prostate Imaging Types of Quality Control Standard**

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
DCM	130606	ESUR 2012 prostate MRI acquisition requirements		

DCM	130607	PI-RADS 2.0 prostate MRI acquisition requirements		
DCM	130608	PI-RADS 2.1 prostate MRI acquisition requirements		
DCM	<a href="#">111240</a>	Institutionally defined quality control standard		

**D DICOM Controlled Terminology Definitions (Normative)**

**Table D-1. DICOM Controlled Terminology Definitions (Coding Scheme Designator "DCM" Coding Scheme Version "01")**

Code Value	Code Meaning	Definition
130542	Magnetic field strength	Nominal field strength of MR magnet.
130543	Endorectal coil used	Indication of whether endorectal coil was used during MR examination.
130544	Endorectal coil type	Type of the endorectal coil used during MR examination.
130545	Inflatable endorectal coil fill substance	Substance used to fill endorectal coil in order to suppress distortion artifacts during MR examination.
130546	Cross-sectional scan plane orientation	Orientation of the plane defining image acquisition.
130547	Dynamic contrast-enhanced temporal resolution	Time between acquisition of imaging samples corresponding to the same tissue location during dynamic contrast-enhanced examination.
130548	Genitourinary History	Clinical history of the patient related to the genitourinary health.
130549	Imaging Study Quality	Assessment of the imaging study related to its quality, as defined by the compliance with the technical acquisition requirements or as perceived by the reader.
130550	Imaging Series Quality	Assessment of a specific imaging series related to its quality, as defined by the compliance with the technical acquisition requirements or as perceived by the reader.

130551	Reporting system	Standard or guideline used to perform structured evaluation of imaging study.
130552	Prostate MRI relevant procedure information	Information relevant for evaluation of prostate MR imaging study.
130553	Prostate Imaging Findings	Findings identified in prostate images
130554	Overall Prostate Finding	Finding relating to the overall assessment of the prostate gland
130555	Localized Prostate Finding	Finding relating to the localized entities within the prostate gland
130556	Prostate relational measurements	Measurements relating localized findings to the prostate gland
130557	Distance from neurovascular bundle	Distance between a finding and a neurovascular bundle
130558	Lesion capsular contact length	Length of the portion of the lesion abutting the prostate capsule as observed in the image.
130559	Extra-prostatic Finding	Finding identified in prostate MRI that is located outside of the prostate gland.
130560	PI-RADS Localized Abnormality Assessment	Evaluation of a localized abnormality within the gland using Prostate Imaging Reporting and Data System (PI-RADS®) guidelines.
130561	PI-RADS T2WI Lesion Assessment	Assessment of the lesions characteristics based on its appearance in T2-weighted MR images following the Prostate Imaging Reporting and Data System (PI-RADS®) guidelines.
130562	PI-RADS DWI Lesion Assessment	Assessment of the lesions characteristics based on its appearance in diffusion-weighted MR images following the Prostate Imaging Reporting and Data System (PI-RADS®) guidelines.
130563	PI-RADS DCE Lesion Assessment	Assessment of the lesions characteristics based on its appearance in Dynamic Contrast-enhanced MR images following the Prostate Imaging Reporting and Data System (PI-RADS®) guidelines.
130564	PI-RADS v2.0	Prostate Imaging Reporting and Data System (PI-RADS®) version 2.0 See [PI-RADS] in Normative References.
130565	PI-RADS v2.1	Prostate Imaging Reporting and Data System (PI-RADS®) version 2.1 See [PI-RADS v2.1] in Normative References.

130566	Diffusion-weighted Acquisition Highest b-value image	Image from a diffusion-weighted acquisition corresponding to the highest b-value.
130567	Dynamic Contrast-Enhanced Acquisition	Image acquisition that involves injection of a contrast agent into the bloodstream.
130568	Dynamic Contrast-Enhanced Acquisition Subtraction image	Image obtained as a difference in image intensities between two phases of a dynamic contrast-enhanced acquisition.
130569	Utricle cyst	Area of focal dilatation that occurs within the prostatic utricle.
130570	Protocol not followed	Imaging protocol was not followed.
130571	Coil placement concern	Based on image appearance, the coil was not placed correctly.
130572	Coil selection concern	Incorrect coil was selected during MR acquisition.
130573	Study performed did not match request	The imaging procedure performed did not correspond to what was requested.
130574	Incomplete study	Study is missing data.
130575	Suboptimal patient preparation	Some patient preparation procedures were not performed sufficiently with respect to what was expected.
130576	Anatomy coverage incomplete	Coverage of the imaged anatomy is not complete.
130577	Poor FOV selection	Choice of Field of View size or position is not fit for the purpose of the acquisition.
130578	Poor SNR	Signal-to-noise characteristics are insufficient for the purpose of the acquisition.
130579	Poor contrast timing	Timing of the contrast injection relative to the timing of the image acquisition was not properly selected.
130580	Inadequate contrast enhancement	Contrast enhancement observed in the image is not sufficient for the purpose of the acquisition.
130581	Subtraction image missing	The study lacks a sufficient set of subtraction images.
130582	Unwanted subtraction images	Extra subtraction image sets are present that are incorrect or confusing.
130583	Expected b-value is missing	Diffusion-weighted MR image obtained with an expected b-value is not present.
130584	Severe distortion in the area of interest	Severe geometric distortions are

		present in the image, and are affecting the area of interest in the image.
130585	Expected ADC map is missing	Apparent Diffusion parametric map image is missing, but was expected.
130586	Distortion artifact in the area of interest	Geometric distortions are present in the image, and are affecting the area of interest in the image.
130587	No family history of prostate cancer	There is no history of prostate cancer in the patient's family.
130588	Pre-biopsy localization of prostate lesion	The purpose of imaging is to identify and localize targets suspicious of the presence of prostate cancer prior to biopsy.
130589	Active surveillance of prostate cancer	Continual monitoring of a patient with localized prostate cancer, with a view to curative intent, according to locally agreed pathways. After [Kuru 2013]
130590	Assess change	The need to detect or measure the amount of change in the condition.
130591	Focal abnormality	Abnormality localized at a focus, central point or locus. [PI-RADS]
130592	Non-focal abnormality	Abnormality not localized to a single focus. [PI-RADS]
130593	Partially encapsulated	Partially but not entirely surrounded (bounded) by a distinct tissue layer, such as a smooth low-signal line on MRI. [PI-RADS]
130594	Completely encapsulated	Entirely surrounded (bounded) by a distinct tissue layer, such as a smooth low-signal line on MRI, in more than one spatial dimension (at least two imaging planes). [PI-RADS]
130595	ADC Hyperintense	Having higher signal intensity (more intense, brighter) than background tissue on the apparent diffusion coefficient map. [PI-RADS]

130596	ADC Hypointense	Having lower intensity (darker) than a reference background tissue on apparent diffusion coefficient map.
130597	Persistent delayed phase: Type 1 curve	Continued increase of signal intensity over time. [PI-RADS]
130598	Plateau delayed phase: Type 2 curve	Signal intensity does not change over time after its initial rise, flat; plateau refers to signal that varies <10% from the peak signal over the duration of the DCE MRI. [PI-RADS]
130599	Washout delayed phase: Type 3 curve	Signal intensity decreases after its highest point after its initial rise. [PI-RADS]
130600	Positive DCE	Focal, early enhancement corresponding to a focal peripheral zone of transition zone lesion on T2 and/or DWI MRI. [PI-RADS]
130601	Negative DCE	Lack of early enhancement. Diffuse enhancement not corresponding to a focal lesion on T2 and/or DWI MRI. Focal enhancement corresponding to a BPH lesion. [PI-RADS]
130602	Early Contrast Enhancement	Contrast-enhanced is observed in the early stage following contrast injection
130603	Diffuse Contrast Enhancement	Contrast enhancement is non-focal and diffused over a region.
130604	Focal Contrast Enhancement	Contrast enhancement is concentrated in a focal tissue area.
130605	Perfluorocarbon	Class of organofluorine compounds containing only carbon and fluorine.
130606	ESUR 2012 prostate MRI acquisition requirements	Prostate MRI technical acquisition requirements defined in [ESUR Guidelines].

130607	PI-RADS 2.0 prostate MRI acquisition requirements	Prostate MRI technical acquisition requirements defined in PI-RADS® 2.0 [PI-RADS].
130608	PI-RADS 2.1 prostate MRI acquisition requirements	Prostate MRI technical acquisition requirements defined in PI-RADS® 2.1 [PI-RADS].

Add Context Groups to DICOM PS 3.6:

**Part 6 Addendum**

**Table A-3. Context Group UID Values**



Context UID	Context Identifier	Context Group Name	Comment
1.2.840.10008.6.1.1367	CID 6310	Prostate Reporting Systems	
1.2.840.10008.6.1.1368	CID 6311	MR Signal Intensity	
1.2.840.10008.6.1.1369	CID 6312	Cross-sectional Scan Plane Orientation	
1.2.840.10008.6.1.1370	CID 6313	History of Prostate Disease	
1.2.840.10008.6.1.1371	CID 6314	Prostate MRI Study Quality Findings	
1.2.840.10008.6.1.1372	CID 6315	Prostate MRI Series Quality Findings	
1.2.840.10008.6.1.1373	CID 6316	MR Imaging Artifacts	
1.2.840.10008.6.1.1374	CID 6317	Prostate DCE MRI Quality Findings	
1.2.840.10008.6.1.1375	CID 6318	Prostate DWI MRI Quality Findings	
1.2.840.10008.6.1.1376	CID 6319	Abdominal Intervention Types	
1.2.840.10008.6.1.1377	CID 6320	Abdominal Interventions	
1.2.840.10008.6.1.1378	CID 6321	Prostate Cancer Diagnostic Procedures	
1.2.840.10008.6.1.1379	CID 6322	Prostate Cancer Family History	
1.2.840.10008.6.1.1380	CID 6323	Prostate Cancer Therapy	
1.2.840.10008.6.1.1381	CID 6324	Prostate MRI Assessment	
1.2.840.10008.6.1.1382	CID 6325	Overall Assessment from PI-RADS®	
1.2.840.10008.6.1.1383	CID 6326	Image Quality Control Standards	
1.2.840.10008.6.1.1384	CID 6327	Prostate Imaging Indications	
1.2.840.10008.6.1.1385	CID 6328	PI-RADS® v2 Lesion Assessment Category	
1.2.840.10008.6.1.1386	CID 6329	PI-RADS® v2 T2WI PZ Lesion Assessment Category	
1.2.840.10008.6.1.1387	CID 6330	PI-RADS® v2 T2WI TZ Lesion Assessment Category	
1.2.840.10008.6.1.1388	CID 6331	PI-RADS® v2 DWI Lesion Assessment Category	
1.2.840.10008.6.1.1389	CID 6332	PI-RADS® v2 DCE Lesion Assessment Category	
1.2.840.10008.6.1.1390	CID 6333	mpMRI Assessment Types	
1.2.840.10008.6.1.1391	CID 6334	mpMRI Assessment Types from PI-RADS®	
1.2.840.10008.6.1.1392	CID 6335	mpMRI Assessment Values	
1.2.840.10008.6.1.1393	CID 6336	MRI Abnormalities	
1.2.840.10008.6.1.1394	CID 6337	mpMRI Prostate Abnormalities from PI-RADS®	

1.2.840.10008.6.1.1395	CID 6338	mpMRI Benign Prostate Abnormalities from PI-RADS®	
1.2.840.10008.6.1.1396	CID 6339	MRI Shape Characteristics	
1.2.840.10008.6.1.1397	CID 6340	Prostate MRI Shape Characteristics from PI-RADS®	
1.2.840.10008.6.1.1398	CID 6341	MRI Margin Characteristics	
1.2.840.10008.6.1.1399	CID 6342	Prostate MRI Margin Characteristics from PI-RADS®	
1.2.840.10008.6.1.1400	CID 6343	MRI Signal Characteristics	
1.2.840.10008.6.1.1401	CID 6344	Prostate MRI Signal Characteristics from PI-RADS®	
1.2.840.10008.6.1.1402	CID 6345	MRI Enhancement Patterns	
1.2.840.10008.6.1.1403	CID 6346	Prostate MRI Enhancement Patterns from PI-RADS®	
1.2.840.10008.6.1.1404	CID 6347	Prostate MRI Extra-prostatic Findings	
1.2.840.10008.6.1.1405	CID 6348	Prostate MRI Assessment of Extra-prostatic Anatomic Sites	
1.2.840.10008.6.1.1406	CID 6349	MR Coil Types	
1.2.840.10008.6.1.1407	CID 6350	Endorectal Coil Fill Substances	
1.2.840.10008.6.1.1408	CID 6351	Prostate Relational Measurements	
1.2.840.10008.6.1.1409	CID 6352	Prostate Cancer Diagnostic Blood Lab Measurements	
1.2.840.10008.6.1.1410	CID 6353	Prostate Imaging Types of Quality Control Standard	

Amend DICOM PS 3.17 - Explanatory Information to add new Annex WWWW

### WWWW Prostate Imaging Report SR Document

#### WWWW.1 Prostate Imaging Report SR Document with Minimal Content

This example contains only the required components, and contains measurements of the prostate gland, and a single lesion annotated with the length measurement.

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1	Multiparametric magnetic resonance imaging of prostate		TID 4300
1.1	Language of Content Item and	English	TID 1204

	Descendants		
1.2	Observer Type	Person	TID 1001
1.3	Person Observer Name	Smith^John	TID 1003
1.4	Subject name	Jackson^Paul	TID 1007
1.5	Subject ID	S98765432	TID 1007
1.6	Racial group	African race	TID 1007 CID 6099
1.7	Reporting System	PI-RADS v2.0	TID 4300
1.8	Prostate Imaging Findings		TID 4302
1.9.1	Overall Prostate Finding		TID 4303
1.9.1.1	Tracking Identifier	"Prostate"	TID 4303
1.9.1.2	Tracking Unique Identifier	2.999.1	TID 4303
1.9.1.3	Finding	Entire	TID 4303
1.9.1.4	Finding site	Prostate	TID 4303
1.9.1.5	Measurement Group		TID 1501
1.9.1.5.1	Height	7 mm	TID 300 CID 7470
1.9.1.5.1.1	Source	SCOORD GraphicType POLYLINE with two coordinates, the beginning and end of a line segment	TID 320
1.9.1.5.1.1.1	(none)	IMAGE - MR image #1	TID 320
1.9.1.5.2	Width	10 mm	TID 300 CID 7470
1.9.1.5.2.1	Source	SCOORD GraphicType POLYLINE with two coordinates, the beginning and end of a line segment	TID 320
1.9.1.5.2.1.1	(none)	IMAGE - MR image #2	TID 320
1.9.1.5.3	Length	9 mm	TID 300 CID 7470
1.9.1.5.3.1	Source	SCOORD GraphicType POLYLINE with two coordinates, the beginning and end of a line segment	TID 320
1.9.1.5.3.1.1	(none)	IMAGE - MR image #3	TID 320

1.9.2	Localized Prostate Finding		TID 4304
1.9.2.1	Tracking Identifier	"Lesion 1"	TID 4304
1.9.2.2	Tracking Unique Identifier	2.999.2	TID 4304
1.9.2.3	Finding	Index lesion	TID 4304 CID 6337
1.9.2.4	Finding Site	Right anterior middle peripheral zone of prostate	TID 4304 CID 6300
1.9.2.5	Measurement Group		TID 1501
1.9.2.5.1	Length	2 mm	TID 300 CID 7470
1.9.2.5.1.1	Source	SCoord GraphicType POLYLINE with two coordinates, the beginning and end of a line segment	TID 320
1.9.2.5.1.1.1	(none)	IMAGE - MR image #4	TID 320
1.9.2.6	PI-RADS Localized Abnormality Assessment		TID 4306
1.9.2.6.1	Index Lesion	Yes	TID 4306 CID 231
1.9.2.6.2	PI-RADS T2WI Lesion Assessment		TID 4306
1.9.2.6.2.1	PI-RADS T2WI PZ Lesion Assessment Category	PI-RADS 3 - TWI PZ Low	TID 4306 CID 6329
1.9.2.6.3	PI-RADS DWI Lesion Assessment		TID 4306
1.9.2.6.3.1	PI-RADS DWI Lesion Assessment Category	PI-RADS 3 - DWI Intermediate	TID 4306 CID 6331
1.9.2.6.4	PI-RADS DCE Lesion Assessment		TID 4306
1.9.2.6.4.1	PI-RADS DCE Lesion Assessment Category	PI-RADS X - DCE Inadequate or absent	TID 4306 CID 6332
1.9.2.6.5	PI-RADS Lesion Assessment Category	PI-RADS 3 - Intermediate (lesion)	TID 4306 CID 6328
1.9.3	PI-RADS Overall Assessment Category	PI-RADS 3 - Intermediate	TID 4302 CID 6325

## WWWW.2 Application of the templates describing multiparametric MRI acquisition

This example demonstrates the use of TID 1600 “Image Library” within TID 4300 “Prostate Imaging Report” (row 6). Note that Diffusion weighted acquisition image library group (rows 1.2.\*) could be split into separate groups corresponding to the individual b-values.

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.	Image Library		TID 1600
1.1.	Image Library Group		TID 1600
1.1.1.	Modality	MR	TID 1602
1.1.2.	Magnetic field strength	3 T	TID 1606
1.1.3.	MR coil	Endorectal coil	TID 1606 CID 6349
1.1.4.	MR signal intensity	T2 Weighted MR Signal Intensity	TID 1606 CID 6311
1.1.5.	Cross-sectional scan plane orientation	Axial	TID 1606 CID 6312
1.1.6.	IMAGE		TID 1601
1.1.n	IMAGE		TID 1601
1.2.	Image Library Group		TID 1600
1.2.1.	Modality	MR	TID 1602
1.2.2.	Magnetic field strength	3 T	TID 1606
1.2.3.	MR coil	Endorectal coil	TID 1606 CID 6349
1.2.4.	MR signal intensity	Diffusion weighted	TID 1606 CID 6311
1.2.5.	Cross-sectional scan plane orientation	Axial	TID 1606 CID 6312
1.2.6.	Source image diffusion b-value	0 s/mm <sup>2</sup>	TID 1606
1.2.7.	IMAGE		TID 1601
1.2.n	IMAGE		TID 1601
1.3.	Image Library Group		TID 1600
1.3.1.	Modality	MR	TID 1602
1.3.2.	Magnetic field strength	3 T	TID 1606

1.3.3.	MR coil	Endorectal coil	TID 1606
1.3.4.	MR signal intensity	Diffusion weighted	TID 1606 CID 6311
1.3.5.	Cross-sectional scan plane orientation	Axial	TID 1606 CID 6312
1.3.6.	Source image diffusion b-value	500 s/mm2	TID 1606
1.3.7.	IMAGE		TID 1601
1.3.n	IMAGE		TID 1601
1.4.	Image Library Group		TID 1600
1.4.1.	Modality	MR	TID 1602
1.4.2.	Magnetic field strength	3 T	TID 1606
1.4.3.	MR coil	Endorectal coil	TID 1606
1.4.4.	MR signal intensity	Dynamic Contrast-Enhanced Acquisition	TID 1606 CID 6311
1.4.5.	Cross-sectional scan plane orientation	Axial	TID 1606 CID 6312
1.4.6.	Prostate DCE temporal resolution	3.5 s	TID 1608
1.4.7.	IMAGE		TID 1601
1.4.n	IMAGE		TID 1601

### WWWW.3 Application of the templates describing multiparametric MRI image quality

This example demonstrates reporting of multiparametric MRI quality for a prostate MR study.

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.	Imaging Study Quality		TID 1701
1.1.	Quality Assessment	Usable - Does not meet the quality control standard	TID 1701 CID 6044
1.1.1.	Quality Control Standard	PI-RADS 2.0 prostate MRI acquisition requirements	TID 1701 CID 6353
1.2.	Quality Finding	Protocol not followed	TID 1701 CID 6314
1.3.	Quality Finding	Coil placement concerns	TID 1701

			CID 6314
1.4	Imaging Series Quality		TID 1701
1.4.1.	Series Instance UID	2.999.1	TID 1701
1.4.2.	Quality Assessment	Unusable - Quality renders image unusable	TID 1701 CID 6044
1.4.2.1.	Quality Control Standard	Institutionally defined quality control standard	TID 1701 CID 6326
1.4.3.	Quality Finding	Severe distortion in the area of interest	TID 1701 CID 6318

#### WWWW.4 Prostate MRI relevant patient information

This example demonstrates the use of TID 9007 “General Relevant Patient Information” within TID 4300 “Prostate Imaging Report” (row 7).

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.	Relevant Patient Information		TID 9007
1.1.	Problem List		TID 9004
1.1.1.	Indicated Problem	Elevated Prostate Specific Antigen	TID 9004 CID 6327
1.2.	Genitourinary History		TID 4301
1.2.1.	Diagnostic procedure		TID 4301
1.2.1.1.	Blood lab measurements		TID 1700
1.2.1.1.1.	Sampling DateTime	19860101120101-0400	TID 1700
1.2.1.1.2.	Prostate Cancer Antigen	3 ng/mL	TID 300 CID 6352
1.2.2.	Diagnostic procedure		TID 4301
	Diagnostic procedure	Digital examination of rectum	TID 3830 CID 6321
1.2.2.2.1.	Procedure DateTime	19850101120101-0400	TID 3830
1.2.2.2.2.	Procedure Result	Abnormal	TID 3830 CID 242

## WWWW.5 Complete Prostate Imaging Report SR Document

This example contains all of the components for a complete report.

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1	Multiparametric magnetic resonance imaging of prostate		TID 4300
1.1	Language of Content Item and Descendants	English	TID 1204
1.2	Observer Type	Person	TID 1001
1.3	Person Observer Name	Smith^John	TID 1003
1.4	Subject name	Jackson^Paul	TID 1007
1.5	Subject ID	S98765432	TID 1007
1.6	Reporting System	PI-RADS v2.0	TID 4300
1.7	Image Library		TID 1600
1.7.1.	Image Library Group		TID 1600
1.7.1.1.	Modality	MR	TID 1602
1.7.1.2.	Magnetic field strength	3 T	TID 1606
1.4.1.3.	MR coil	Endorectal	TID 1606 CID 6349
1.7.1.4.	MR signal intensity	T2 Weighted MR Signal Intensity	TID 1606 CID 6311
1.7.1.5.	Cross-sectional scan plane orientation	Axial	TID 1606 CID 6312
1.7.1.6.	IMAGE		TID 1601
1.7.1.n	IMAGE		TID 1601
1.7.2.	Image Library Group		TID 1600
1.7.2.1.	Modality	MR	TID 1602
1.7.2.2.	Magnetic field strength	3 T	TID 1606
1.7.2.3.	MR coil	Endorectal	TID 1606 CID 6349
1.7.2.4.	MR signal intensity	Diffusion weighted	TID 1606



			CID 6311
1.7.2.5.	Cross-sectional scan plane orientation	Axial	TID 1606 CID 6312
1.7.2.6.	Source image diffusion b-value	50 s/mm2	TID 1606
1.7.2.7.	Source image diffusion b-value	400 s/mm2	TID 1606
1.7.2.8.	Source image diffusion b-value	800 s/mm2	TID 1606
1.7.2.9.	Source image diffusion b-value	1400 s/mm2	TID 1606
1.7.2.7.	IMAGE		TID 1601
1.7.2.n	IMAGE		TID 1601
1.7.3.	Image Library Group		TID 1600
1.7.3.1.	Modality	MR	TID 1602
1.7.3.2.	Magnetic field strength	3 T	TID 1606
1.7.3.3.	MR coil	Endorectal	TID 1606 CID 6349
1.7.3.4.	MR signal intensity	Dynamic Contrast-Enhanced Acquisition	TID 1606 CID 6311
1.7.3.5.	Cross-sectional scan plane orientation	Axial	TID 1606 CID 6312
1.7.3.6.	Prostate DCE temporal resolution	10 s	TID 1608
1.7.3.7.	IMAGE		TID 1601
1.7.3.n	IMAGE		TID 1601
1.8.	General Relevant Patient Information		TID 9007 CID 6327
1.8.1.	Problem List		TID 9004
1.8.1.1.	Indicated Problem	Elevated Prostate Specific Antigen	CID 6327
1.8.2.	Genitourinary History		TID 4301
1.8.2.1.	Diagnostic procedure		TID 4301
1.8.2.1.1.	Blood lab measurements		TID 1700 CID 6352
1.8.2.1.1.1.	Sampling DateTime	19860101120101-0400	TID 1700
1.8.2.1.1.2.	Prostate Cancer Antigen Measurement	12.1 ng/mL	TID 1700 TID 300

1.9	Prostate MRI relevant procedure information		TID 4300
1.9.1.	Contrast administered	Gadobutrol	TID 3106 CID 3409 CID 12
1.9.1.1.	Route of administration	Intra-arterial route	TID 3106 CID 11
1.9.1.2.	Volume administered	10 mL	TID 3106 CID 3410
1.9.1.3.	Rate of administration	2 ml/s	TID 3106 CID 3410
1.9.2.	Endorectal coil used	No	TID 4300 CID 231
1.10.	Imaging study quality		TID 1701
1.10.1	Quality Assessment	Usable - Meets the quality control standard	TID 1701 CID 6044
1.10.2.	Quality Control Standard	PI-RADS 2.0 prostate MRI acquisition requirements	TID 1701 CID 6353
1.10.3	Imaging Series Quality		TID 1701
1.10.3.1.	Series Instance UID		TID 1701
1.10.3.2.	Quality Assessment	Usable - Meets the quality control standard	TID 1701 CID 6044
1.10.3.3.	Quality Control Standard	Institutionally defined quality control standard	TID 1701 CID 6326
1.10.3.4.	Quality Finding	Distortion artifact in the area of interest	TID 1701 CID 6318
1.11	Prostate Imaging Findings		TID 4302
1.11.1	Overall Prostate Finding		TID 4303
1.11.1.1	Tracking Identifier	"Prostate"	TID 4303
1.11.1.2	Tracking Unique Identifier	2.999.1	TID 4303
1.11.1.3	Finding	Entire	TID 4303
1.11.1.4	Finding site	Prostate	TID 4303
1.11.1.5	Measurement Group		TID 1501
1.11.1.5.1	Height	5 mm	TID 300 CID 7470

1.11.1.5.1.1	Source	SCCOORD GraphicType POLYLINE with two coordinates, the beginning and end of a line segment	TID 320
1.11.1.5.1.1.1	(none)	IMAGE - MR image #1	TID 320
1.11.1.5.2	Width	4 mm	TID 300 CID 7470
1.11.1.5.2.1	Source of Measurement	SCCOORD GraphicType POLYLINE with two coordinates, the beginning and end of a line segment	TID 320
1.11.1.5.2.1.1	(none)	IMAGE - MR image #2	TID 320
1.11.1.5.3	Length	4 mm	TID 300 CID 7470
1.11.1.5.3.1	Source	SCCOORD GraphicType POLYLINE with two coordinates, the beginning and end of a line segment	TID 320
1.11.1.5.3.1.1	(none)	IMAGE - MR image #3	TID 320
1.11.1.6.	Peripheral zone		TID 4303 CID 6300
1.11.1.6.1.	Signal characteristics	Heterogeneous	TID 4303 CID 6334 CID 6344
1.11.1.6.2.	Signal characteristics	Slightly heterogeneous high signal	TID 4303 CID 6334
1.11.1.7.	Transition zone		TID 4303 CID 6300
1.11.1.7.1.	Signal characteristics	Heterogeneous	CID 6334 CID 6344
1.11.2	Localized Prostate Finding		TID 4304
1.11.2.1	Tracking Identifier	"Lesion 1"	TID 4304
1.11.2.2	Tracking Unique Identifier	2.999.2	TID 4304
1.11.2.3	Finding	Index lesion	TID 4304 CID 6337
1.11.2.4	Finding Site	Right anterior middle peripheral zone of prostate	TID 4304 CID 6300
1.11.2.5	Measurement Group		TID 1501
1.11.2.5.1.1	Length	1.1 cm	TID 300 CID 7470

1.11.2.5.1.1.1	Source	SCCOORD GraphicType POLYLINE with two coordinates, the beginning and end of a line segment	TID 300
1.11.2.5.1.1.1.1	(none)	IMAGE - MR image #4	TID 1410
1.11.2.6	PI-RADS Localized Abnormality Assessment		TID 4306
1.11.2.6.1	Index Lesion	Yes	TID 4306 CID 231
1.11.2.6.2	PI-RADS T2WI Lesion Assessment		TID 4306
1.11.2.6.2.1	PI-RADS T2WI Lesion Assessment Category	PI-RADS 5 - T2WI PZ Very high	TID 4306 CID 6329
1.11.2.6.2.2	Signal characteristics	Homogeneous	TID 4306 CID 120 CID 121
1.11.2.6.2.3	Signal characteristics	Hypointense	TID 4306 CID 120 CID 121
1.11.2.6.3	PI-RADS DWI Lesion Assessment		TID 4306
1.11.2.6.3.1	PI-RADS DWI Lesion Assessment Category	PI-RADS 5 - DWI Very high	TID 4306 CID 6331
1.11.2.6.3.2	Signal characteristics	Hyperintense	TID 4306 CID 120 CID 121
1.11.2.6.3.3	Status of extraprostatic extension of nodal tumor	Present	TID 4306 CID 120 CID 121
1.11.2.6.4	PI-RADS DCE Lesion Assessment		TID 4306
1.11.2.6.4.1	PI-RADS DCE Lesion Assessment Category	PI-RADS DCE +ve	TID 4306 CID 6332
1.11.2.6.5	PI-RADS Lesion Assessment Category	PI-RADS 5 - Very high (lesion)	TID 4306 CID 6328
1.11.3	PI-RADS Overall Assessment Category	PI-RADS 5 - Very high	TID 4302 CID 6325