



# MRI Rectal Staging Template 2015

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Revision Summary

The following changes have been made since the June 2012 release.

### Formatting

Standardized headings were added to the template. These headings are:

- Clinical Information
- Imaging Procedure Description
- Findings
- Impressions

## CLINICAL INFORMATION

Clinical requisition was added, as follows:

i) Clinical requisition: [Free Text]

## IMAGING PROCEDURE DESCRIPTION

MRI protocol was changed to Imaging Procedure Description.

Magnet and Sequences was added, as follows:

ii) Magnet:  1.5T  3T

iii) Sequences: [Free Text] *[Insert rectal cancer staging protocol. Should include minimum sequences recommended in User's guide.]*

## FINDINGS

### 1. TUMOR LOCATION AND CHARACTERISTICS

The categories tumor location and characteristics are now combined as they overlap.

Distance of the lowest extent of tumour from anal verge was changed to anal verge to distal tumor margin, as follows:

ii) Anal verge to distal tumor margin: [\_\_\_\_\_] cm

Is the lower extent of the tumor at or below the top border of the puborectalis was moved up in the template, and the option "Uncertain" was added, as follows:

iii) Tumor at or below the puborectalis sling: No Yes Uncertain

The wording in this category has been changed. Craniocaudal length is put above clock face. Clock face extent will now be described through two o'clock co-ordinates, a comment on the morphology is added, and an "uncertain" option for mucinous has been added, as follows:

vi) Craniocaudal length of the tumor: [\_\_\_\_\_] cm

vii) Clock face of tumor: [\_\_\_\_\_] o'clock to [\_\_\_\_\_] o'clock

viii) Polypoid/Annular/Semi-annular: [\_\_\_\_\_]

ix) Mucinous: No Yes Uncertain

## 2. EXTRAMURAL DEPTH OF INVASION AND MR T-CATEGORY

This category is new in 2015, and has combined questions from 4 - T-category and 5 - Distance to the MRF and Extramural Depth of Invasion (EMD) from 2012.

Extramural depth of invasion was moved up in the template to this category, as follows:

i) *Extramural depth of invasion (Use 0mm for T1/T2 tumour): [\_\_\_\_] mm*

The descriptions for the T-category were changed for brevity:

- The description for T2/early T3 was changed from “Includes spiculations of the perirectal fat” to “Including Spiculations”

ii) *T category:*

- T1 or T2
- T2/early T3 (including spiculations)
- T3
- T3/possible T4\*
- T4\*

The list of structures with possible invasion has been altered for simplicity. For each structure a location, laterality, sequence and slice # should be mentioned:

- Left ureter; right ureter is now ureter(s)
- Urethra has been added
- Obturator Internus is now obturator
- The levator ani muscle group is considered together rather than as components
- The left/right internal/external iliac vessels are now vascular involvement of iliac vessels
- Pelvic bones has been added
- Puborectalis has been added

The list is as follows:

- |   |   |  |   |  |  |
|---|---|--|---|--|--|
| <ul style="list-style-type: none"><li>• Anterior peritoneal reflection (T4a tumor)</li><li>• Puborectalis</li><li>• Bladder</li><li>• Vascular Involvement of Iliac Vessels</li></ul> | <ul style="list-style-type: none"><li>• Levator ani</li><li>• Ureter(s)</li></ul> | <ul style="list-style-type: none"><li>• Obturator</li><li>• Prostate</li></ul> | <ul style="list-style-type: none"><li>• Piriformis</li><li>• Uterus</li><li>• Other</li></ul> | <ul style="list-style-type: none"><li>• Pelvic bones(specify)</li><li>• Vagina</li></ul> | <ul style="list-style-type: none"><li>• Sacrum (Specify Level)</li><li>• Urethra</li></ul> |
|---|---|--|---|--|--|

In 2015, reference to a low rectal T category has been removed and replaced with Levels to avoid confusion and contradiction with T-category assignment in the previous section. In addition the description of the Levels has been shortened to reduce overlap, and avoid redundant description of T4 disease already addressed in section 3ii) of this report. The new categorization is as follows:

- Not applicable (tumor above the puborectalis sling)*
- Level 1 (submucosa only, no involvement of internal sphincter)*
- Level 2 (confined to the internal sphincter; no involvement of intersphincteric fat)*
- Level 3 (intersphincteric fat involved)*
- Level 4 (involves external sphincter or beyond)*

### 3. RELATIONSHIP OF THE TUMOR TO MESORECTAL FASCIA (MRF)

This category is renamed and revised in 2015 and includes information from 5 - Distance to the MRF and Extramural Depth of Invasion (EMD) from 2012.

The distance of the tumor to the MRF now has an o'clock co-ordinate, as follows:

i) Shortest distance \_\_\_ mm of the definitive tumour border to the MRF is: At [\_\_\_] o'clock; OR  
 Not able to assess; OR  Not applicable (tumor involves upper anterior peritonealized rectum only)

The question, "Is there any other component of the tumour (any T2-3) closer to the MRF" has been deleted.

### 4. EXTRAMURAL VENOUS INVASION

If EMVI is positive, then a distance and location should be reported, as follows:

i) Extramural Venous Invasion (EMVI):  Absent  Equivocal  Positive\*  
\*If Positive, EMVI is \_\_\_ mm from the MRF at \_\_\_ o'clock

### 5. MESORECTAL LYMPH NODES AND TUMOUR DEPOSITS

The clinical content of this category is the same, but the questions have been reformatted for brevity, and a "note" has been added, as follows:

i) Any suspicious mesorectal lymph nodes/tumor deposits:  No  Yes\*  
(suspicious = mixed signal or irregular borders, and/or short axis  $\geq 8$ mm NB: Size threshold should not be used alone. Assess signal and borders to increase sensitivity):  
\* If Yes, the most suspicious node/tumor deposit is [ above,  at,  below] the tumor with minimum distance \_\_\_ mm from the MRF at \_\_\_ o'clock.

### 6. EXTRAMESORECTAL LYMPH NODES

The location of suspicious nodes has been changed from a free text to discrete fields, and laterality should be mentioned, as follows:

i) Any suspicious extramesorectal nodes:  No  Yes\*  
(suspicious = mixed signal or irregular borders, and/or short axis  $\geq 10$ mm. NB: Size threshold should not be used alone. Assess signal and borders to increase sensitivity):  
\* If Yes, location and laterality of suspicious nodes:

<input type="checkbox"/> Int. Iliac <input type="checkbox"/> R <input type="checkbox"/> L	<input type="checkbox"/> Ext. Iliac <input type="checkbox"/> R <input type="checkbox"/> L	<input type="checkbox"/> Common Iliac <input type="checkbox"/> R <input type="checkbox"/> L	<input type="checkbox"/> Obturator <input type="checkbox"/> R <input type="checkbox"/> L	<input type="checkbox"/> Inguinal <input type="checkbox"/> R <input type="checkbox"/> L	<input type="checkbox"/> Other: _____ <input type="checkbox"/> R <input type="checkbox"/> L
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A new question, addressing the IMA node station was added, as follows:

ii) Is the IMA node station in the field of view Y or N:  No  Yes\*  
\*If Yes: are these nodes suspicious  No  Yes

## 8. OTHER FINDINGS (COMPLICATIONS, METASTASES, LIMITATIONS)

This section has been renamed from free text/additional comments

### IMPRESSIONS

This is a new section in 2015. This summary statement is intended to highlight the most important elements of the report for the treating physician, or multidisciplinary team to understand the prognosis, treatment goals, and challenges.

\*i) Summary statement

MRI rectal cancer T category is: \_\_\_\_\_

Maximum EMD of invasion is: \_\_\_\_\_

Minimum tumor to MRF distance is: \_\_\_\_\_

Low rectal tumor component: Yes No

Mesorectal nodes/tumor deposits: Negative Suspicious

EMVI: Absent Equivocal Positive

Extramesorectal nodes: Negative Suspicious

ii) Comment: [free text]

## MRI Rectal Staging Template (2015)

This document was developed by Drs Blair Macdonald, Eisar Al-Sukhni, Laurent Milot, Mark Fruitman, Gina Brown, Selina Schmocker and Erin Kennedy for the Cancer Services Innovation Partnership – a joint initiative of Cancer Care Ontario and the Canadian Cancer Society. This template has been updated from 2012.

### CLINICAL INFORMATION

i) Clinical requisition: [Free Text]

### IMAGING PROCEDURE DESCRIPTION

- i) Image quality:  Adequate  Suboptimal  Non-diagnostic
- ii) Magnet:  1.5T  3T and Sequences
- iii) Sequences: [Free Text] [Insert rectal cancer staging protocol. Should include minimum sequences recommended in User's guide.]

### FINDINGS

#### 1. TUMOR LOCATION AND CHARACTERISTICS

- i) Tumor Location (from anal verge):  Low 0-5.0cm  Mid 5.1-10.0cm  High 10.1-15.0cm
- ii) Anal verge to distal tumor margin: [\_\_\_\_\_] cm
- iii) Tumor at or below the puborectalis sling:  No  Yes  Uncertain
- iv) Distance of lowest extent of tumor from top of anal sphincter: [\_\_\_\_\_] cm
- v) Relationship to the anterior peritoneal reflection:  above  straddles  below  not able to assess
- vi) Craniocaudal length of the tumor: [\_\_\_\_\_] cm
- vii) Clock face of tumor: [\_\_\_\_\_] o'clock to [\_\_\_\_\_] o'clock
- viii) Polypoid/Annular/Semi-annular:[\_\_\_\_\_]
- ix) Mucinous:  No  Yes  Uncertain

#### 2. EXTRAMURAL DEPTH OF INVASION AND MR T-CATEGORY

- i) Extramural depth of invasion (Use 0mm for T1 or T2 tumour): [\_\_\_\_\_] mm
- ii) T category:
- T1 or T2
  - T2/early T3 (including spiculations)
  - T3
  - T3/possible T4\*
  - T4\*

\* please indicate structures with possible invasion. Specify laterality, sequence and slice#: (see list below)

- Anterior peritoneal reflection (T4a tumor)
- Puborectalis
- Levator ani
- Obturator
- Piriformis
- Pelvic bones(specify)
- Sacrum (Specify Level)
- Bladder
- Ureter(s)
- Prostate
- Uterus
- Vagina
- Urethra
- Vascular Involvement of Iliac Vessels
- Other

iii) For low rectal tumors (maximum tumor depth at or below the puborectalis sling):

- Not applicable (tumor above the puborectalis sling)
- Level 1 (submucosa only, no involvement of internal sphincter)
- Level 2 (confined to the internal sphincter; no involvement of intersphincteric fat)
- Level 3 (intersphincteric fat involved)
- Level 4 (involves external sphincter or beyond)

**3. RELATIONSHIP OF THE TUMOR TO MESORECTAL FASCIA (MRF)**

i) Shortest distance \_\_\_\_ mm of the definitive tumour border to the MRF is: At [ \_\_\_\_ ] o'clock; OR  
 Not able to assess; OR  Not applicable (tumor only involves upper anterior peritonealized rectum [T4a])

ii) Are there any tumour spiculations closer to the MRF?  No  Yes\*  
\*If Yes, spiculations are \_\_\_\_ mm from the MRF at \_\_\_\_ o'clock

**4. EXTRAMURAL VENOUS INVASION**

i) Extramural Venous Invasion (EMVI) :  Absent  Equivocal  Positive\*  
\*If Positive, EMVI is \_\_\_\_ mm from the MRF at \_\_\_\_ o'clock

**5. MESORECTAL LYMPH NODES AND TUMOUR DEPOSITS**

i) Any suspicious mesorectal lymph nodes/tumour deposits:  No  Yes\*  
(suspicious = mixed signal or irregular borders, and/or short axis ≥8mm NB: Size threshold should not be used alone. Assess signal and borders to increase sensitivity):

\* If Yes, the most suspicious node/tumour deposit is [ above,  at,  below] the tumor with minimum distance \_\_\_\_ mm from the MRF at \_\_\_\_ o'clock.

**6. EXTRAMESORECTAL LYMPH NODES**

i) Any suspicious extramesorectal lymph nodes:  No  Yes\*  
(suspicious = mixed signal or irregular borders, and/or short axis ≥10mm. NB: Size threshold should not be used alone. Assess signal and borders to increase sensitivity)

\* If Yes, location and laterality of suspicious nodes:

<input type="checkbox"/> Int. Iliac <input type="checkbox"/> R <input type="checkbox"/> L	<input type="checkbox"/> Ext. Iliac <input type="checkbox"/> R <input type="checkbox"/> L	<input type="checkbox"/> Common Iliac <input type="checkbox"/> R <input type="checkbox"/> L	<input type="checkbox"/> Obturator <input type="checkbox"/> R <input type="checkbox"/> L	<input type="checkbox"/> Inguinal <input type="checkbox"/> R <input type="checkbox"/> L	<input type="checkbox"/> Other: _____ <input type="checkbox"/> R <input type="checkbox"/> L
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ii) Is the IMA node station in the field of view:  No  Yes\*  
\*If Yes, are these nodes suspicious  No  Yes

**7. OTHER FINDINGS (COMPLICATIONS, METASTASES, LIMITATIONS)**

[Free Text]

**+IMPRESSIONS**

i) Summary statement  
MRI rectal cancer T category is: \_\_\_\_\_  
Maximum EMD of invasion is: \_\_\_\_\_  
Minimum tumor to MRF distance is: \_\_\_\_\_  
Low rectal tumor component:  Yes  No  
Mesorectal nodes/tumour deposits:  Negative  Suspicious  
EMVI:  Absent  Equivocal  Positive  
Extramesorectal nodes:  Negative  Suspicious

ii) Comment: [free text]