National Accreditation Program for Rectal Cancer
American College of Surgeons

NAPRC Standards: Additions and Changes

New MRI Requirements and Templates

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Phoenix, AZ

Presenters

Marc Gollub, MD, FACR, FSAR

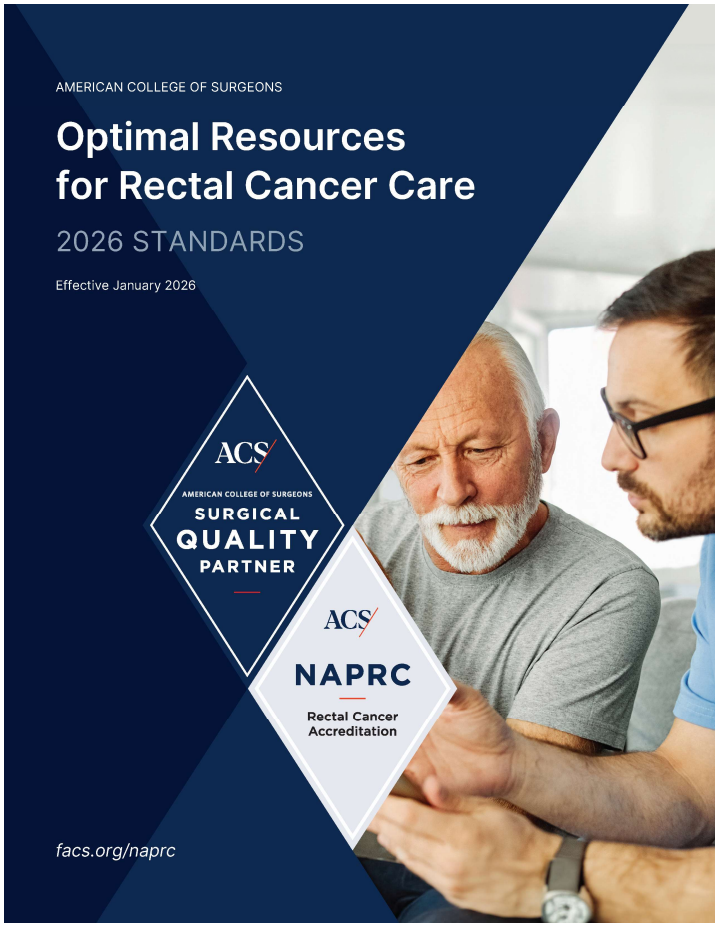
Memorial Sloan Kettering Cancer Center, New York, NY

Disclosures

Nothing to disclose.

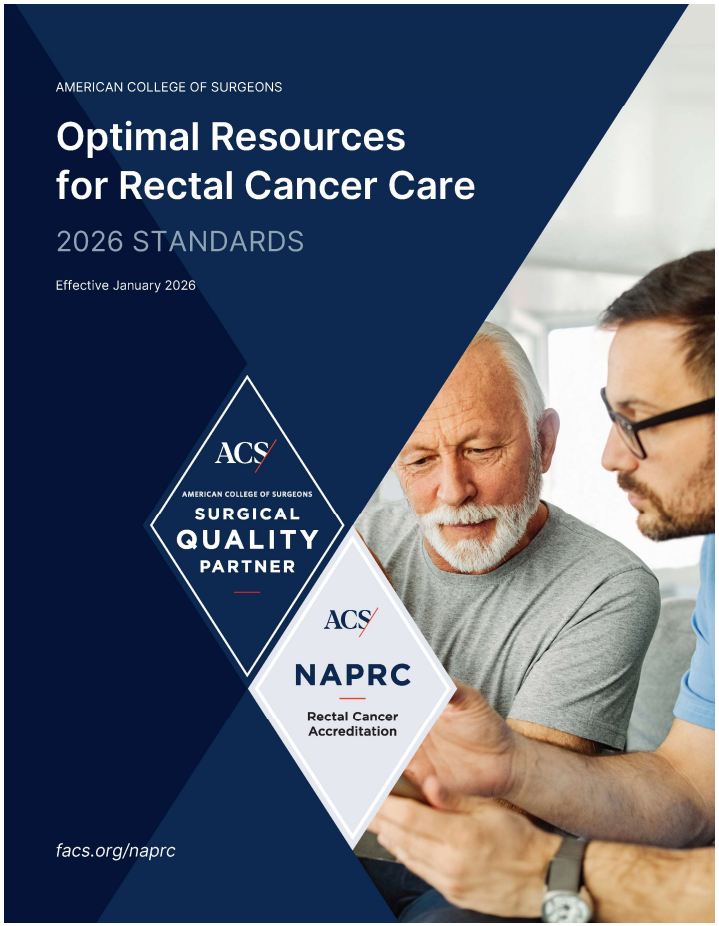
Lecture Outline

- The 90% rule
- Staging CT can exclude Pelvis
- Updated post-treatment synoptic report from SAR
- New template after local excision



Updates to Imaging for Rectal Cancer

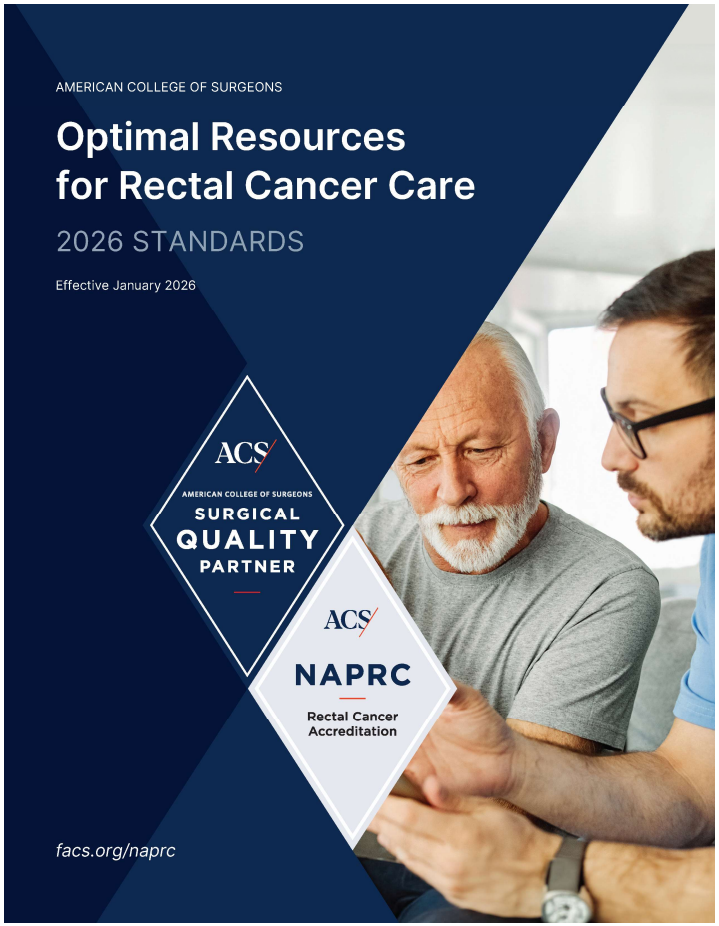
- Staging separated into systemic and local, with their respective requirements for associated imaging studies
  - **Standard 5.3 – Systemic Staging with Computerized Tomography**
  - **Standard 5.4 – Local Staging with Magnetic Resonance Imaging**



Updates to Imaging – Standard 5.3

Standard 5.3 – Systemic Staging with Computerized Tomography

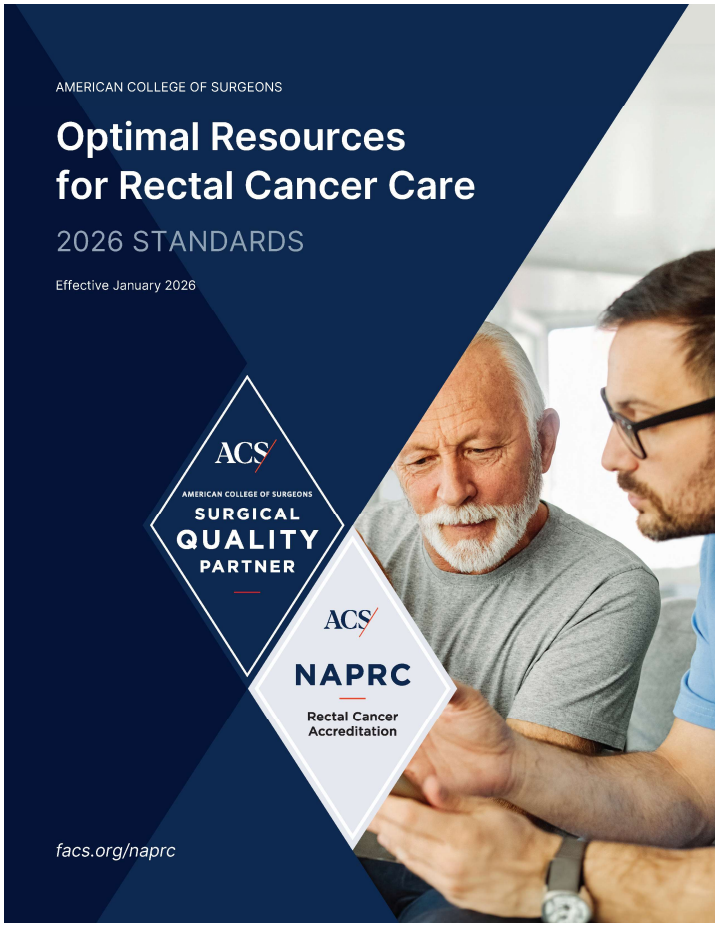
- A minimum of ninety percent (90%) of all previously untreated patients with rectal cancer must have completed systemic staging by CT or PET/CT scan of the chest, abdomen, and pelvis before definitive treatment is initiated by the NAPRC-accredited program
- The CT or PET/CT scans must be presented and discussed by the RC-MDT
- **PET scan without CT does not meet the standard**



Updates to Imaging – Standard 5.3

Standard 5.3 – Systemic Staging with Computerized Tomography

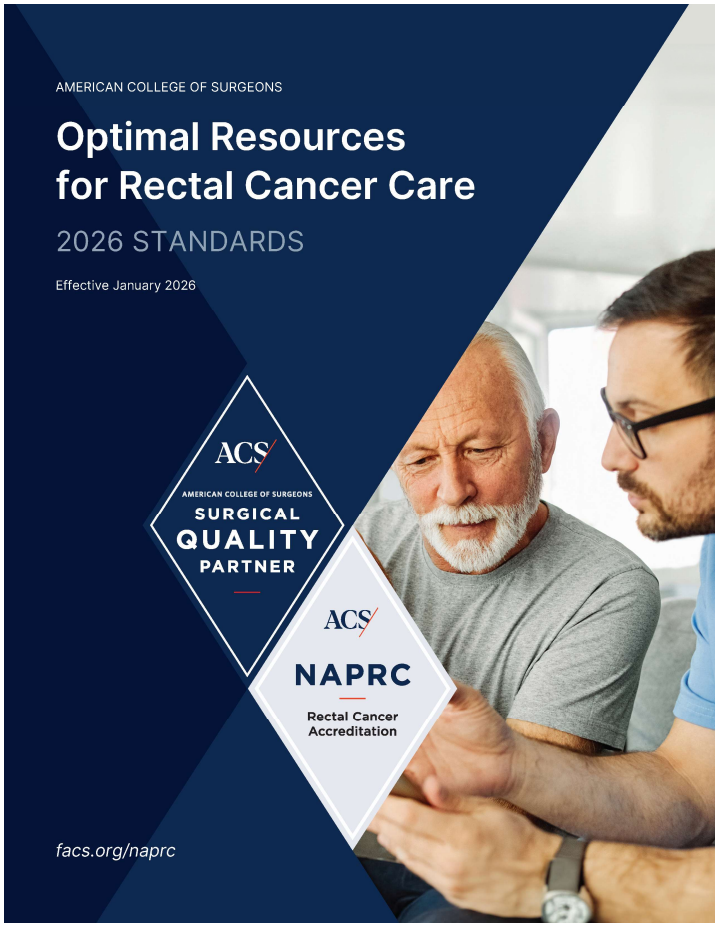
- CT of the pelvis may be omitted if there is anatomic structural continuity between the last slice of the abdominal CT and the first slice of the pelvic MRI
- If pelvic CT is forgone, continuation must be documented in a consistent manner, for example:
  - RC-MDT meeting minutes
  - Treatment recommendation summary
  - MRI report
- Method and location of consistent documentation must be included within the rectal cancer staging protocol



Updates to Imaging – Standard 5.3

Standard 5.3 – Systemic Staging with Computerized Tomography

- CT of the pelvis may be omitted if there is anatomic structural continuity between the last slice of the abdominal CT and the first slice of the pelvic MRI
  - Issue is related to anecdotal insurance non-coverage
  - Recent survey of PROSPECT MRI (unpublished)
    - Only 8/50 MRI began MRI pelvis at IMA
      - Must include IMA = Locoregional LN
      - Not all sites do “high ligation” TME



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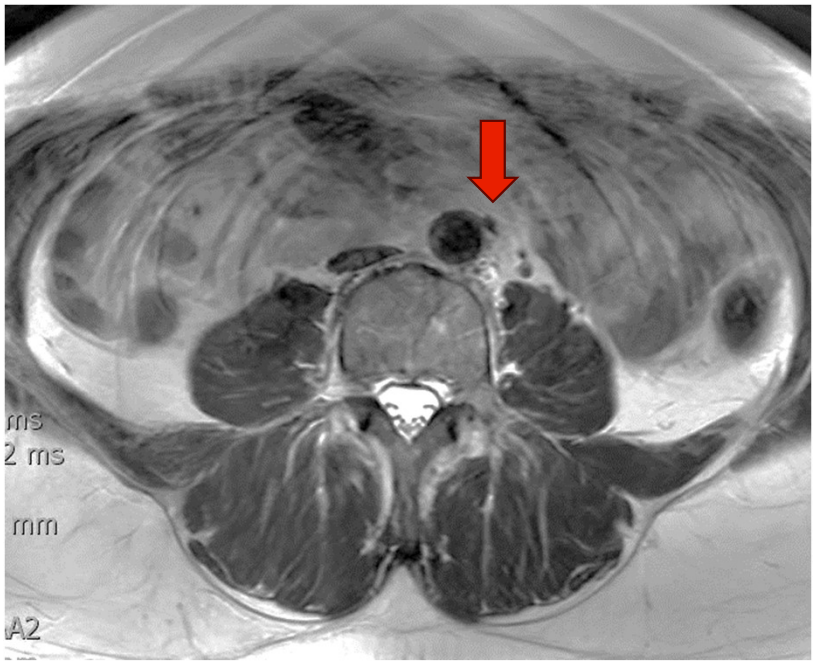

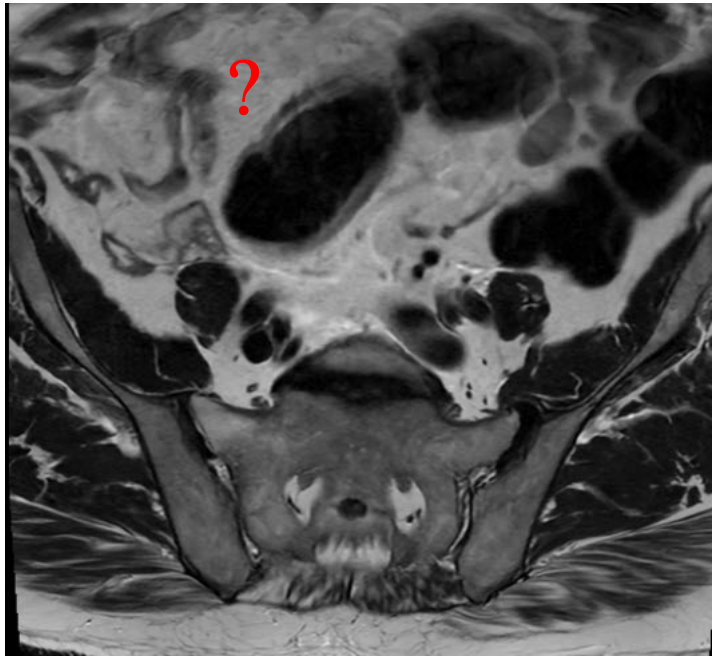

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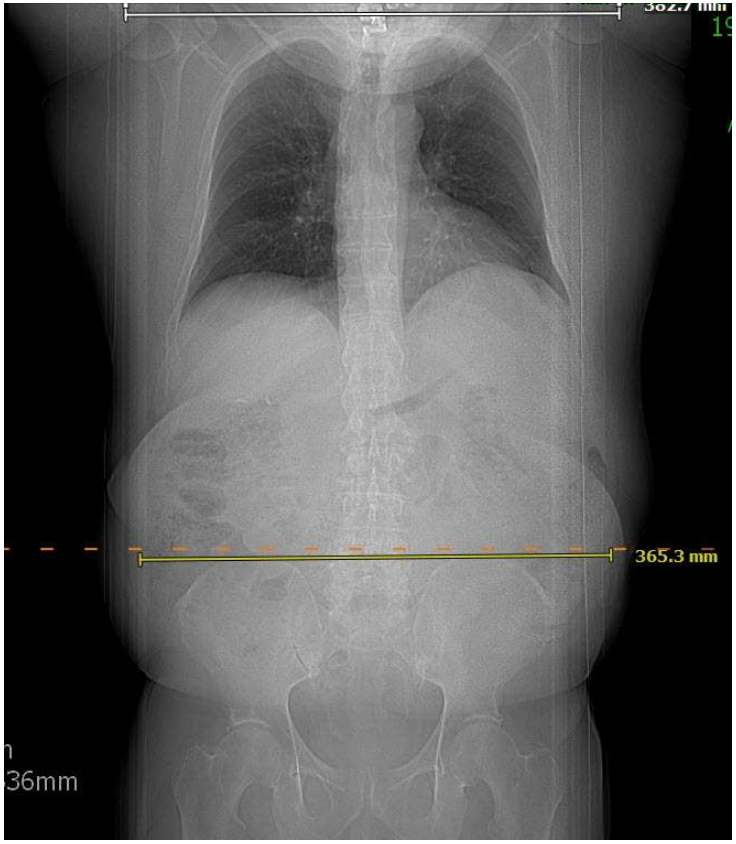

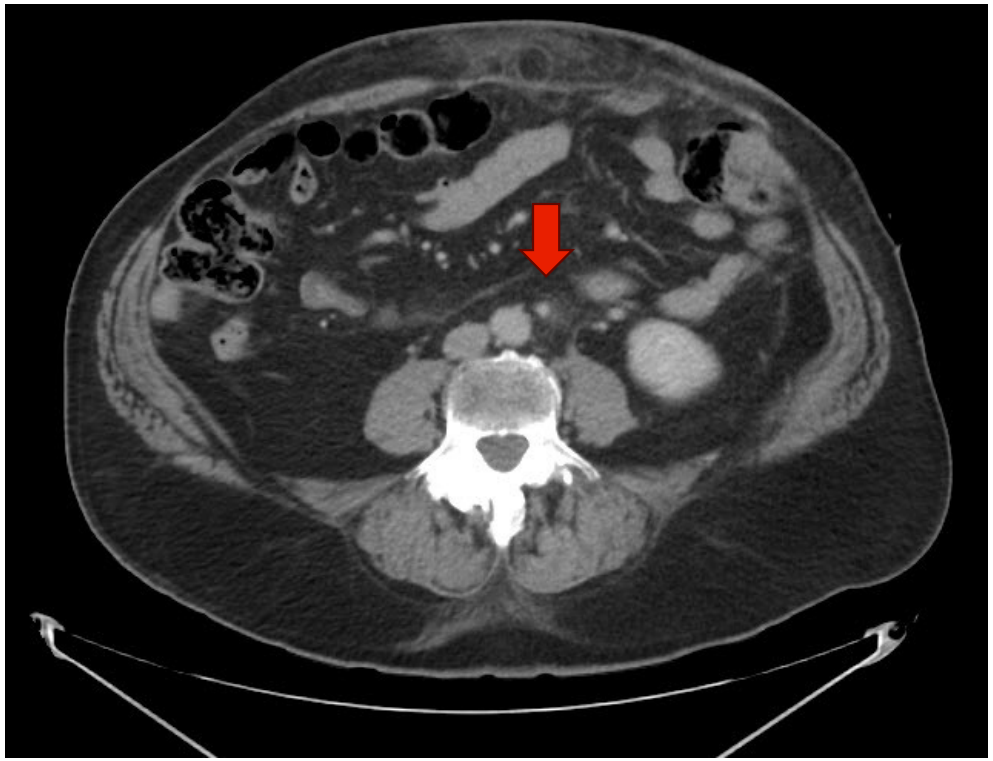

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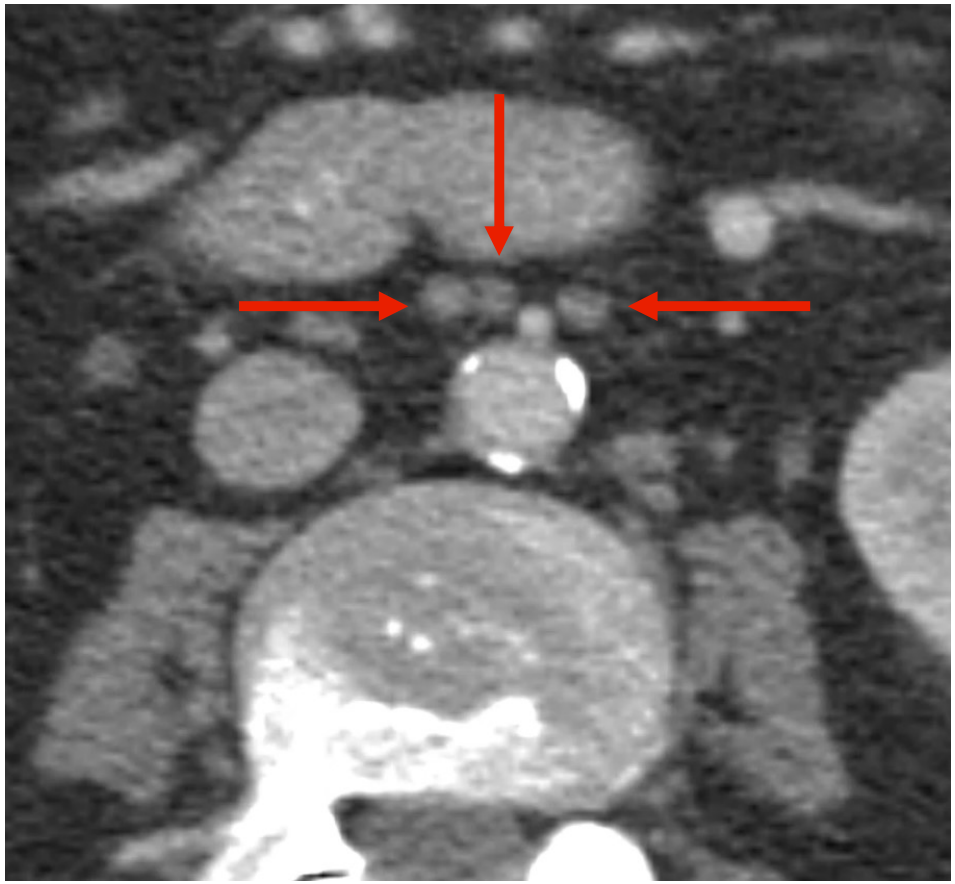
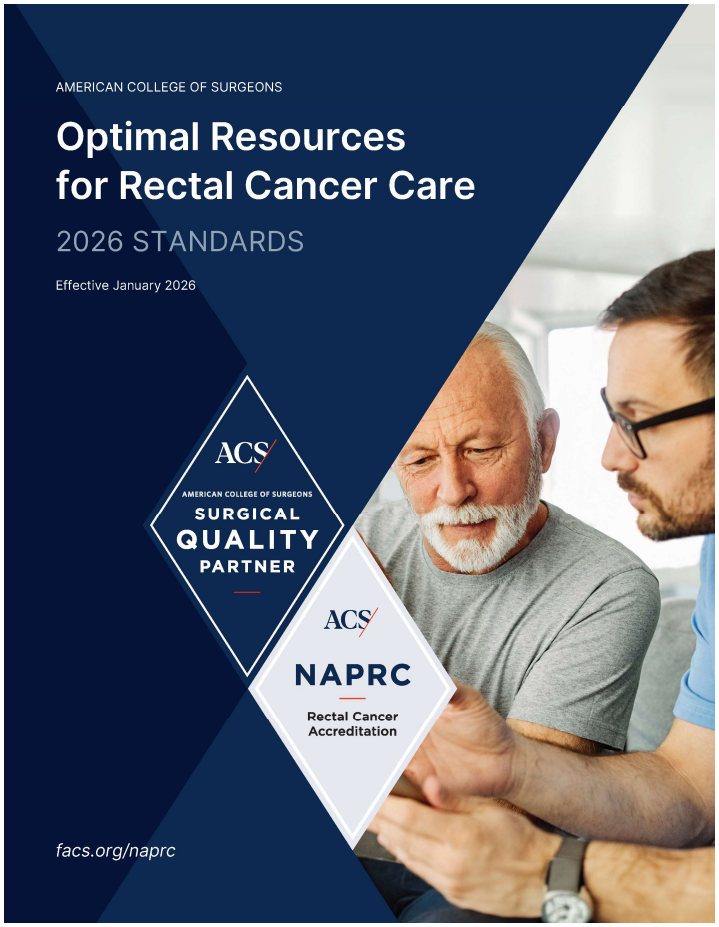


Updates to Imaging – Standard 5.4

Standard 5.4 – Local Staging with Magnetic Resonance Imaging

- A minimum of ninety percent (90%) of all newly diagnosed patients with rectal cancer must have completed local staging by MRI before definitive treatment is initiated by the NAPRC-accredited program
- The MRI results must be presented and discussed by the RC-MDT
- All MRI scans must be read by a radiologist member of the RC-MDT
- MRI staging results must be recorded in a standardized synoptic report containing the minimum required elements defined by the Society of Abdominal Radiology (SAR)



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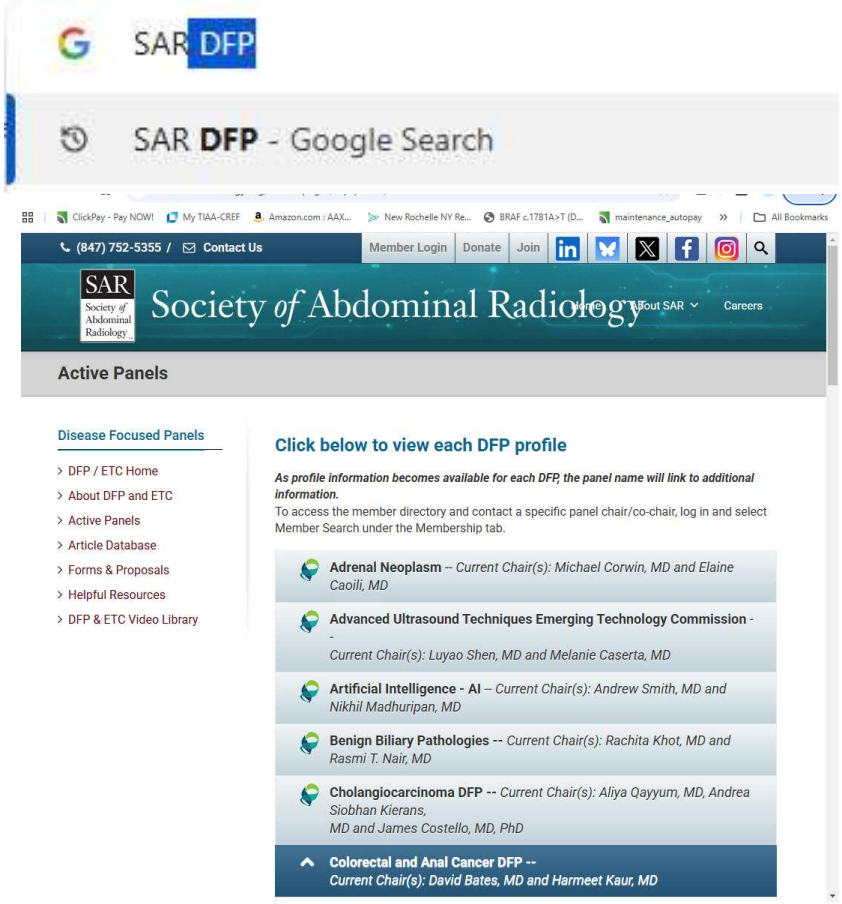
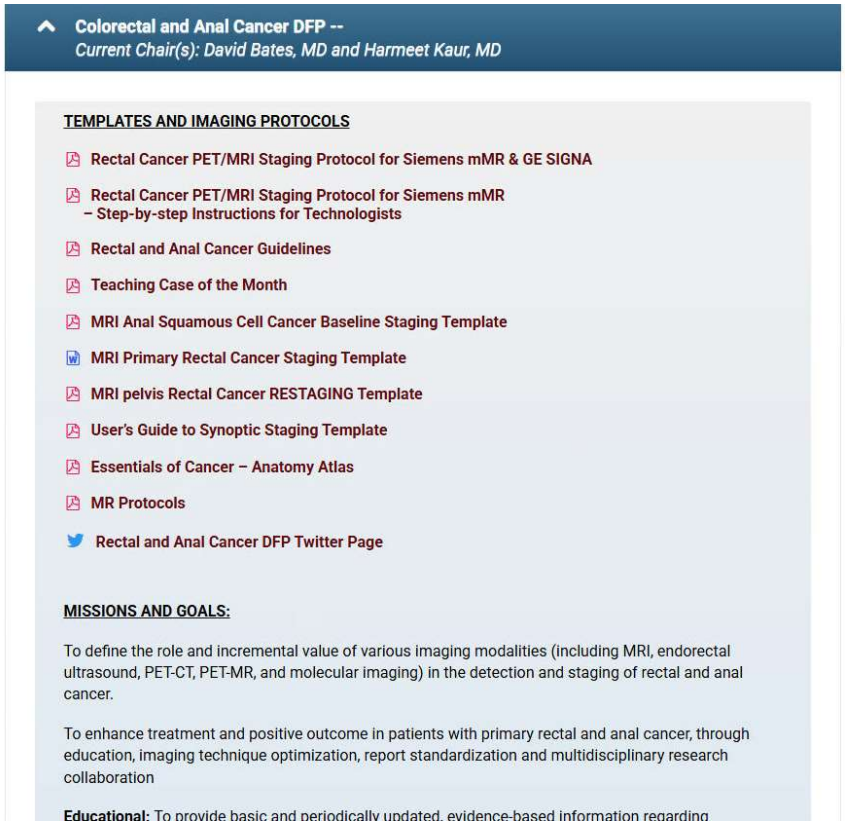
BASELINE MRI STAGING RECTAL CANCER





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BASELINE MRI STAGING RECTAL CANCER

SAR Primary Rectal Cancer Staging Template - v.2021

(To be used only for biopsy-proven adenocarcinoma of the rectum)

CLINICAL INFORMATION: [Free text]

TECHNIQUE: [Free text]

COMPARISON: []

PRIMARY TUMOR: MORPHOLOGY, LOCATION, AND CHARACTERISTICS:
Distance to the anal verge: [] cm
Distance to the top of sphincter complex/anorectal junction: [] cm
Relationship to anterior peritoneal reflection:
☐ Above ☐ Straddles ☐ Below
Craniocaudal length: [] cm
Tumor location: ☐ Upper (10-15 cm) ☐ Mid (5-10 cm) ☐ Lower (0-5 cm)
[Free text: use descriptors such as "anterior", "posterior", "left lateral", right lateral", or clock face depending on institutional preference]
Morphology: ☐ Polypoid ☐ Annular ☐ Partly annular
Mucinous composition: ☐ No mucin ☐ Some mucin ☐ Mostly mucin

MR-T CATEGORY[1]:
☐Tx (tumor not seen, post transanal excision/polypectomy)
☐T1/2 (tumor confined to rectal wall)
☐T3a (tumor penetrates < 1 mm beyond muscularis propria)
☐T3b (tumor penetrates 1- 5 mm beyond muscularis propria)
☐T3c (tumor penetrates >5-15 mm beyond muscularis propria)
☐T3d (tumor penetrates > 15 mm beyond muscularis propria)
☐T4a (visible tumor signal thickening and/or nodularity of the anterior peritoneal reflection – may also apply to tumor signal extending laterally along peritoneal reflection)
☐T4b* (tumor invades or adherent to adjacent organs or structures)

* For T4b, structures with possible invasion include: [free text]

[1]T2 vs. early T3 category has been removed from the template based on group discussion. This is considered an inherent limitation of the modality with limited accuracy, therefore the group has decided to not use this category in the report. However, in challenging cases, the interpreting radiologist can discuss the T-stage in the multidisciplinary setting, in which case other factors may be used to reach a final decision on patient management.

FOR LOW RECTAL TUMORS - Invasion of anal sphincter complex:
☐ Absent
☐ Invades internal sphincter (IS) only
☐ Invades IS and extends into intersphincteric space (ISS)
☐ Invades IS + ISS + extends into or through external sphincter (describe involved structures below)

Area of involvement, if present:
☐ Upper anal canal
☐ Mid anal canal
☐ Distal anal canal

Description of external sphincter involvement: []

EMVI: ☐No ☐Yes
Location of EMVI (indicate series and image number): []

MESORECTAL FASCIA (MRF) (FOR T3 TUMORS ONLY)
Shortest distance of tumor to MRF: [] mm (location), [image and series number]

☐N/A: (tumor at peritonealized portion of the rectum)

Is there a separate tumor deposit, LN or EMVI threatening (≥ 1mm and ≤2 mm) or invading (< 1 mm) the MRF?
☐ No ☐ Yes (if yes, note location)

TUMOR DEPOSITS[2]:
☐ None identified
☐ Yes, series and image number: []

Free text: [Describe number and location of tumor deposits]

[2]Note: This de novo section has been added because recent literature indicates that tumor deposits (TD) have a distinct appearance relative to lymph nodes and are defined as the following: *"nodules of tumor within the mesorectum which appear to directly interrupt their course when seen on two orthogonal views"*. TD and LN have unique prognostic features (TD likely worse than LN), hence the separation into two distinct categories. Please see updated SAR User's Guide for additional details.

LYMPH NODES:
Mesorectal/superior rectal lymph nodes and/or tumor deposits:
☐ N0 (no visible lymph nodes/deposits)
☐ N+ (short axis ≥ 9 mm)
☐ N+ (short axis 5 - 8.9 mm AND at least 2 suspicious morphologic criteria*)
☐ N+ (short axis <5 mm AND all 3 suspicious morphologic criteria*)
☐ Nx (indeterminate, all other cases)

*Suspicious morphologic criteria: (1) round shape, (2) irregular borders, (3) heterogeneous signal intensity

Suspicious extra mesorectal lymph nodes:
☐No
☐Yes (if yes, indicate short axis diameter and select location from list below:)

Short axis diameter: []
Series and image number: []

Select lymph node location or indicate N/A:
Locoregional:
☐ N/A
[Right/left] internal iliac, [] mm
[Right/left] obturator, [] mm
[Right/left] inguinal, [] mm (**only considered locoregional when tumor is below the dentate line)
Distant (M1):
☐ N/A
[Right/left] common iliac, [] mm
[Right/left] external iliac, [] mm
[Right/left] inguinal, [] mm
[Right/left] retroperitoneal, [] mm

OTHER: [free text: bones, peritoneal mets, other incidental findings]

IMPRESSION:
1. Primary Tumor Location: []
2. MRI Stage: T [] N [] (if node positive, provide location)
3. Sphincter involvement: ☐No ☐Yes [if yes, provide location/laterality]
4. MRF Status:
   ☐ Clear (tumor margin >2 mm from MRF)
   ☐ Threatened (tumor margin within 1-2 mm of MRF)
   ☐ Involved (tumor margin <1 mm from the MRF)
5. EMVI: ☐No ☐Yes

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CLINICAL INFORMATION: [Free text]

TECHNIQUE: [Free text]

COMPARISON: []

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HOLLOW ORGAN GI

SAR user guide to the rectal MR synoptic report (primary staging)

Z. Kassam[1] · R. Lang[1] · D. D. B. Bates[2] · K. J. Chang[3] · T. J. Fraum[4] · K. A. Friedman[5] · J. S. Golia Pernicka[2] · M. J. Gollub[2] · M. Harisinghani[6] · G. Khatri[7] · C. Lall[8] · S. Lee[9] · M. Magnetta[10] · S. Nougaret[11] · R. M. Pasupulati[12] · V. Paroder[2] · H. Shaish[13] · D. H. Kim[14] · on behalf of the SAR Rectal and Anal Cancer Disease Focus Panel

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Abstract
Rectal MR is the key diagnostic exam at initial presentation for rectal cancer patients. It is the primary determinant in establishing clinical stage for the patient and greatly impacts the clinical decision-making process. Consequently, structured reporting for MR is critically important to ensure that all required information is provided to the clinical care team. The SAR initial staging reporting template has been constructed to address these important items, including locoregional extent and factors impacting the surgical approach and management of the patient. Potential outputs to each item are defined, requiring the radiologist to commit to a result. This provides essential information to the surgeon or oncologist to make specific treatment deisions for the patient. The SAR Initial Staging MR reporting template has now been officially adopted by the NAPRC (National Accreditation Program for Rectal Cancer) under the American College of Surgery. With the recent revisions to the reporting template, this user guide has been revamped to improve its practicality and support to the radiologist to complete the structured report. Each line item of the report is supplemented with clinical perspectives, images, and illustrations to help the radiologist understand the potential implications for a given finding. Common errors and pitfalls to avoid are highlighted. Ideally, rectal MR interpretation should not occur in a vacuum but in the context of a multi-disciplinary tumor board to ensure that healthcare providers use common terminology and share a solid understanding of the strengths and weaknesses of MR.

Keywords Rectal cancer · Magnetic resonance imaging · Structured reporting · Staging

Purpose and background

This practical guide is geared toward the general abdominal radiologist to help correctly complete the SAR rectal cancer synoptic report at initial staging/presentation. The guide has been extensively revised from the initial version in order increase the usefulness to the radiologist. Each line item on the synoptic report is displayed in the guide followed by an explanation on how to correctly report out the specific finding.

The purpose of this guide is to:

(1) Provide further detail regarding the various Magnetic Resonance (MR) imaging assessments required in the synoptic report.
(2) Explain the impact of the selected reporting options on patient management.

✉ D. H. Kim
dkim@uwhealth.org

[1] Western University, London, Canada
[2] Memorial Sloan Kettering, New York, USA
[3] Boston University, Boston, USA
[4] Mallinckrodt Institute of Radiology, St. Louis, USA
[5] University Hospitals Cleveland Medical Center, Cleveland, USA
[6] Massachusetts General Hospital, Boston, USA
[7] University of Texas Southwestern, Dallas, USA
[8] University of Florida-Jacksonville, Jacksonville, USA
[9] University of California, Irvine, USA
[10] Northwestern University, Chicago, USA
[11] Montpellier Cancer Institute, U1194, Montpellier University, Montpellier, France
[12] University Hospital, Case Western Reserve University, Cleveland, USA
[13] Columbia University Medical Center, New York, USA
[14] Department of Radiology,University of Wisconsin Medical School, University of Wisconsin, E3/311 Clinical Science Center, 600 Highland Ave., Madison, WI 53792-3252, USA

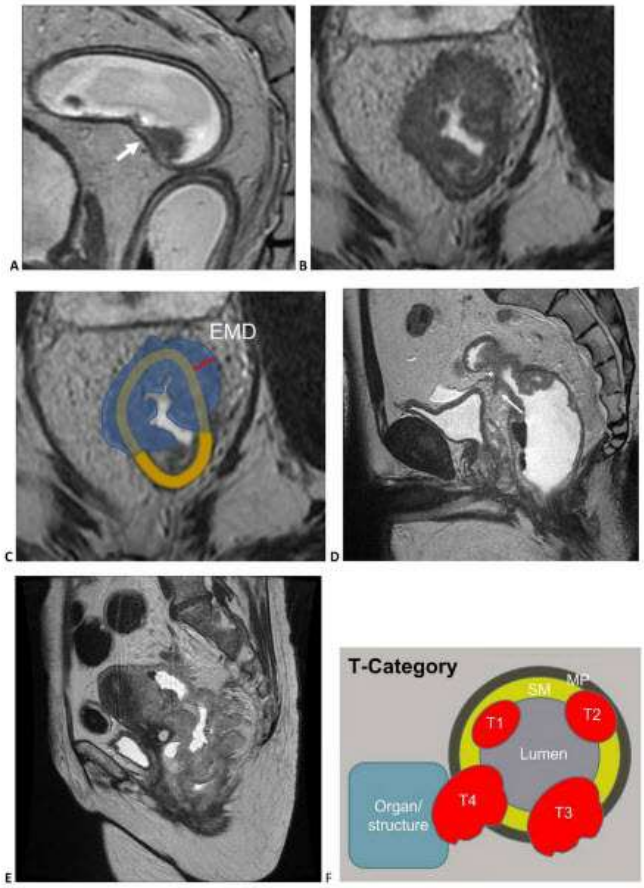

Fig. 6 Spectrum of different T-categories. **a** T1/2 lesion. Notice the intact outer T2 hypointense layer which is smoothly curving, showing an intact muscularis propria (MP; arrow). There is a hint of T2 hyperintense submucosa deep to the soft tissue tumor and superficial to the outer black band. However, we do not try to distinguish between T1 and T2 status. **b** T3 tumor involving the anterior rectum with clear extension beyond the muscularis propria. The irregular outer boundary indicates that the tumor edge is no longer contained by the MP. **c** Overlays of the T3 tumor (in B) depict the tumor (blue) with the theorized location of the prior MP (yellow band) extending from the normal posterior wall. This allows a calculation of the EMD (red line). **d** T4a tumor with nodular thickening of the peritoneal lining at the anterior peritoneal reflection (asterisk) leading to a designation of T4a status. Also note the extension of the tumor along the anterior mesorectal fascia (arrow). **e** T4b cancer with direct extension into the posterior aspect of the uterus and vagina with loss of the fat planes between the rectum and pelvic organs. **f**, Schematic of T-categories (T1 extending into submucosa, T2 into muscularis propria, T3 beyond MP, T4 with invasion into an adjacent organ/structure). To note, T1 and T2 are typically combined into a single category at MR as the decision regarding neoadjuvant therapy remains the same

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UPDATED MRI RESTAGING RECTAL CANCER

Rectal Cancer Restaging MRI

CLINICAL INFORMATION: Rectal Cancer Restaging
Prior treatment: ☐ post CRT ☐ post TNT ☐ post induction chemotherapy ☐ post immunotherapy ☐ other [free text]

TECHNIQUE:
Multiplanar, multisequence imaging of the pelvis.
Magnet strength: ☐ 1.5 ☐ 3.0
Microenema: ☐ yes ☐ no
Glucagon: ☐ no ☐ SQ ☐ IV ☐ IM
IV gadolinium contrast: ☐ yes ☐ no

COMPARISON:
Date of most recent comparison exam: [date]
Date of baseline staging exam: [date]

TREATED PRIMARY TUMOR CHARACTERISTICS (residual tumor/treated tumor/scar):
MRI-T2WI
- ☐ Intermediate signal intensity only, no dark T2/scar
- ☐ Mixed dark T2/scar and intermediate signal
- ☐ Entirely dark T2 signal/scar
- ☐ Nearly normalized appearance of rectal wall
- ☐ T2 bright mucin (cannot distinguish between cellular and acellular mucin)
- [free text: describe above findings; compare to baseline staging exam and most recent prior comparison. For T4 disease, comment on interval change]

* **T4b tumors only:**
Structures of possible invasion:
Genitourinary: ☐ bladder ☐ [left/right] ureter ☐ cervix ☐ uterus ☐ vagina ☐ prostate gland ☐ [left/right] seminal vesicle ☐ urethra
Vessels: ☐ [left/right] internal iliac vessels ☐ [left/right] external iliac vessels
Nerves: ☐ [left/right] lumbosacral nerve roots ☐ [left/right] sciatic nerve
Pelvic sidewall: ☐ [left/right] obturator internus ☐ [left/right] piriformis ☐ [left/right] ischiococcygeus
Pelvic floor: ☐ [left/right] pubococcygeus ☐ [left/right] ileococcygeus ☐ [left/right] puborectalis ☐ [left/right] levator ani
Bones: ☐ sacrum ☐ coccyx ☐ ilium ☐ ischium ☐ pubis

DWI restricted diffusion (high DWI signal and low ADC signal) in residual tumor/treated tumor/scar is:
- ☐ Present
- ☐ Absent
- ☐ Artifact/equivocal or N/A
- [free text: describe and compare to baseline staging exam and most recent prior comparison]

SIZE, LOCATION (residual tumor/treated tumor/scar):
Distance of the inferior margin to the anal verge: [ ] cm
Distance of inferior margin to the anorectal junction: [ ] cm
Craniocaudal length: [ ] cm
- Craniocaudal length on most recent comparison: [ ] cm

Maximal thickness: [ ] cm
- Maximal thickness on most recent comparison: [ ] cm

* **Low rectal tumors only:**
Anal sphincter complex assessment:
- ☐ Not applicable (not a low rectal tumor)
- ☐ >1 cm from top of sphincter complex without involvement
- ☐ ≤1 cm from top of sphincter complex without involvement
- ☐ Involvement internal anal sphincter (IAS) only
- ☐ Involvement IAS and extends into intersphincteric space (ISS)
- ☐ Involvement IAS + ISS + extends into or through external sphincter (EAS)
- [free text: describe location (upper/mid/distal canal) and laterality of anal involvement if present. Compare to baseline staging exam and most recent prior comparison]

EXTRAMURAL VENOUS INVASION (EMVI) and/or TUMOR DEPOSITS (TDs):
- ☐ No (none evident pre-treatment)
- ☐ No, complete regression (T2 dark and DWI negative)
- ☐ Yes, partial regression (decreased T2 signal, but not completely dark and/or remaining DWI restriction)
- ☐ Yes, unchanged or worsened from baseline
- [free text: describe location of EMVI and/or TD(s) if present]

MESORECTAL FASCIA (MRF), applicable only for non-peritonealized portion of tumor/treated tumor/scar:
- ☐ N/A (residual tumor/treated tumor/scar is confined to rectal wall without extramural invasion OR extramural invasion only involves peritonealized portion of rectum)
- ☐ Clear (residual tumor/treated tumor/scar is >0.1 cm from the MRF
- ☐ Invaded (residual tumor/treated tumor/scar is ≤0.1 cm from the MRF)
- [free text: describe and note location]

EMVI or TD or spiculated/irregularly marginated lymph node invading (≤0.1 cm) the MRF?
- ☐ No
- ☐ Yes [free text: describe and note location]

LYMPH NODES (LN)[#]

MESORECTAL/SUPERIOR RECTAL LN:
- ☐ N0 (no visible LN/deposits or size <0.5 cm short axis)
- ☐ N+ (any LN measuring ≥0.5 cm short axis)
- ☐ Nx (mucin replaced lymph node, cannot distinguish between cellular and acellular mucin)

SUSPICIOUS EXTRA-MESORECTAL LN*:
- ☐ No [if no, select N/A from list below]
- ☐ Yes [if yes, select location from list below]

Locoregional:
- ☐ N/A
- [Right/left] internal iliac, [] cm
- [Right/left] obturator, [] cm
- [Right/left] inguinal, [] cm (only considered locoregional when tumor is below the dentate line)

Distant (M1):
- ☐ N/A
- [Right/left] common iliac, [] cm
- [Right/left] external iliac, [] cm
- [Right/left] inguinal, [] cm
- [Right/left] retroperitoneal, [] cm
- [Right/left] inguinal, [] cm (considered distant when tumor is above the dentate line)

OTHER: [free text: bones, peritoneal metastases, other incidental findings]

Impression:
1. Since [most recent prior comparison exam], MRI post-treatment primary tumor assessment indicates:
   - ☐ Complete response (no residual tumor)
   - ☐ Near complete response (possible/equivocal for residual tumor)
   - ☐ Incomplete response (definite residual tumor)
   - ☐ No response (stable or increased in size)
   - ☐ Mucinous change (cannot distinguish between cellular and acellular mucin)
   - [if most recent prior exam is not baseline staging, consider also comparison to baseline]
2. Lymph Nodes:
   - Suspicious mesorectal lymph nodes: ☐ Yes ☐ No
   - Suspicious extra-mesorectal lymph nodes: ☐ Yes [specify location] ☐ No
3. Sphincter Involvement: ☐ Yes [extent/laterality] ☐ No
4. MRF Status (≤0.1 cm of MRF is considered invaded):
   - ☐ Clear
   - ☐ Invaded by residual tumor/treated tumor/scar
   - ☐ Invaded by tumor deposit/spiculated or irregularly marginated LN or EMVI only
5. EMVI/TD: ☐Yes ☐No

[#]The criteria provided here are intended to be used as a practical guideline, but the inaccuracies of MRI for nodal staging due to overlap in size and appearance of malignant and reactive lymph nodes are well recognized.
* Preliminary evidence suggests cautious interpretation, with multidisciplinary input recommended for assessing lateral lymph node dissection in relevant cases. Lateral Node Study Consortium – for cases cT3/T4 with caudal margin within 8 cm of the anal verge and if the node was ≥0.7 cm (short-axis) on baseline staging MRI:
-*Internal iliac lymph nodes*: persistently enlarged (>0.4 cm), the 5-year lateral local recurrence (LLR) rate of 52.3%.
-*Obturator lymph nodes*: persistently enlarged (>0.6 cm), the 5-year LLR of 17.8%. Shrinkage to short axis ≤0.6 cm abolished the risk of LLR at 3-5 years.

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Rectal Cancer Restaging MRI

CLINICAL INFORMATION: Rectal Cancer Restaging
Prior treatment: ☐ post CRT ☐ post TNT ☐ post induction chemotherapy ☐ post immunotherapy ☐ other [free text]

TECHNIQUE:
Multiplanar, multisequence imaging of the pelvis.
Magnet strength: ☐ 1.5 ☐ 3.0
Microenema: ☐ yes ☐ no
Glucagon: ☐ no ☐ SQ ☐ IV ☐ IM
IV gadolinium contrast: ☐ yes ☐ no

COMPARISON:
Date of most recent comparison exam: [date]
Date of baseline staging exam: [date]

TREATED PRIMARY TUMOR CHARACTERISTICS (residual tumor/treated tumor/scar):
MRI-T2WI
- ☐ Intermediate signal intensity only, no dark T2/scar
- ☐ Mixed dark T2/scar and intermediate signal
- ☐ Entirely dark T2 signal/scar
- ☐ Nearly normalized appearance of rectal wall
- ☐ T2 bright mucin (cannot distinguish between cellular and acellular mucin)

[free text: describe above findings; compare to baseline staging exam and most recent prior comparison. For T4 disease, comment on interval change]

* **T4b tumors only:**
Structures of possible invasion:
Genitourinary: ☐ bladder ☐ [left/right] ureter ☐ cervix ☐ uterus ☐ vagina ☐ prostate gland ☐ [left/right] semina vesicle ☐ urethra
Vessels: ☐ [left/right] internal iliac vessels ☐ [left/right] external iliac vessels
Nerves: ☐ [left/right] lumbosacral nerve roots ☐ [left/right] sciatic nerve
Pelvic sidewall: ☐ [left/right] obturator internus ☐ [left/right] piriformis ☐ [left/right] ischiococcygeus
Pelvic floor: ☐ [left/right] pubococcygeus ☐ [left/right] ileococcygeus ☐ [left/right] puborectalis ☐ [left/right] levat ani
Bones: ☐ sacrum ☐ coccyx ☐ ilium ☐ ischium ☐ pubis

DWI restricted diffusion (high DWI signal and low ADC signal) in residual tumor/treated tumor/scar is:
- ☐ Present
- ☐ Absent
- ☐ Artifact/equivocal or N/A

[free text: describe and compare to baseline staging exam and most recent prior comparison]

SIZE, LOCATION (residual tumor/treated tumor/scar):
Distance of the inferior margin to the anal verge: [ ] cm
Distance of inferior margin to the anorectal junction: [ ] cm
Craniocaudal length: [ ] cm
Craniocaudal length on most recent comparison: [ ] cm
Maximal thickness: [ ] cm
Maximal thickness on most recent comparison: [ ] cm

MESORECTAL/SUPERIOR RECTAL LN:
- ☐ N0 (no visible LN/deposits or size <0.5 cm short axis)
- ☐ N+ (any LN measuring ≥0.5 cm short axis)
- ☐ Nx (mucin replaced lymph node, cannot distinguish between cellular and acellular mucin)

SUSPICIOUS EXTRA-MESORECTAL LN*:
- ☐ No [if no, select N/A from list below]
- ☐ Yes [if yes, select location from list below]

Locoregional:
☐ N/A
[Right/left] internal iliac, [] cm
[Right/left] obturator, [] cm
[Right/left] inguinal, [] cm (only considered locoregional when tumor is below the dentate lin

Distant (M1):
☐ N/A
[Right/left] common iliac, [] cm
[Right/left] external iliac, [] cm
[Right/left] inguinal, [] cm
[Right/left] retroperitoneal, [] cm
[Right/left] inguinal, [] cm (considered distant when tumor is above the dentate line)

OTHER: [free text: bones, peritoneal metastases, other incidental findings]

Impression:
1. Since [most recent prior comparison exam], MRI post-treatment primary tumor assessment indicat
   - ☐ Complete response (no residual tumor)
   - ☐ Near complete response (possible/equivocal for residual tumor)
   - ☐ Incomplete response (definite residual tumor)
   - ☐ No response (stable or increased in size)
   - ☐ Mucinous change (cannot distinguish between cellular and acellular mucin)

   [if most recent prior exam is not baseline staging, consider also comparison to baseline]
2. Lymph Nodes:
   Suspicious mesorectal lymph nodes: ☐ Yes ☐ No
   Suspicious extra-mesorectal lymph nodes: ☐ Yes [specify location] ☐ No
3. Sphincter Involvement: ☐ Yes [extent/laterality] ☐ No
4. MRF Status (≤0.1 cm of MRF is considered invaded):
   - ☐ Clear
   - ☐ Invaded by residual tumor/treated tumor/scar
   - ☐ Invaded by tumor deposit/spiculated or irregularly marginated LN or EMVI only
5. EMVI/TD: ☐Yes ☐No

ACS NAPRC **National Accreditation Program for Rectal Cancer**
American College of Surgeons

Restaging MRI User's Guide – Sheedy S. Radiographics 2025

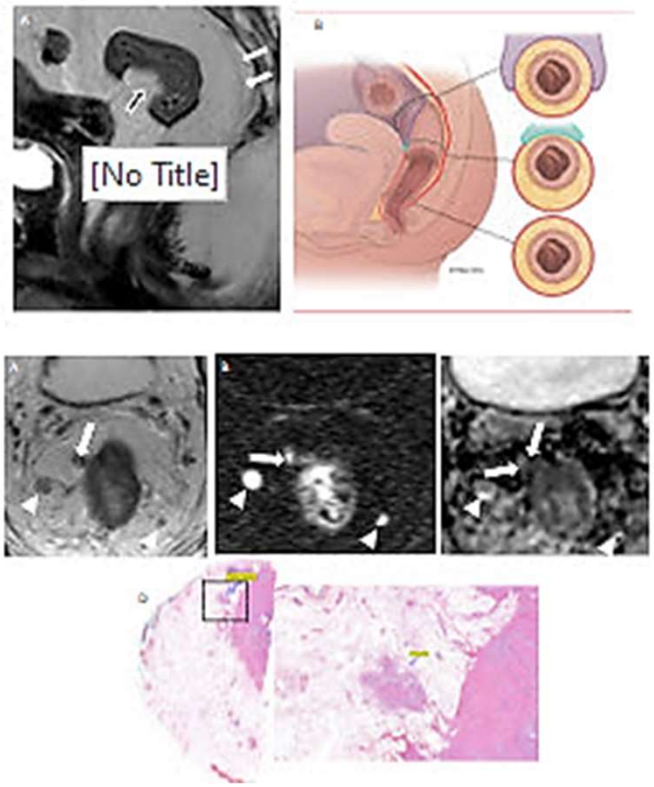


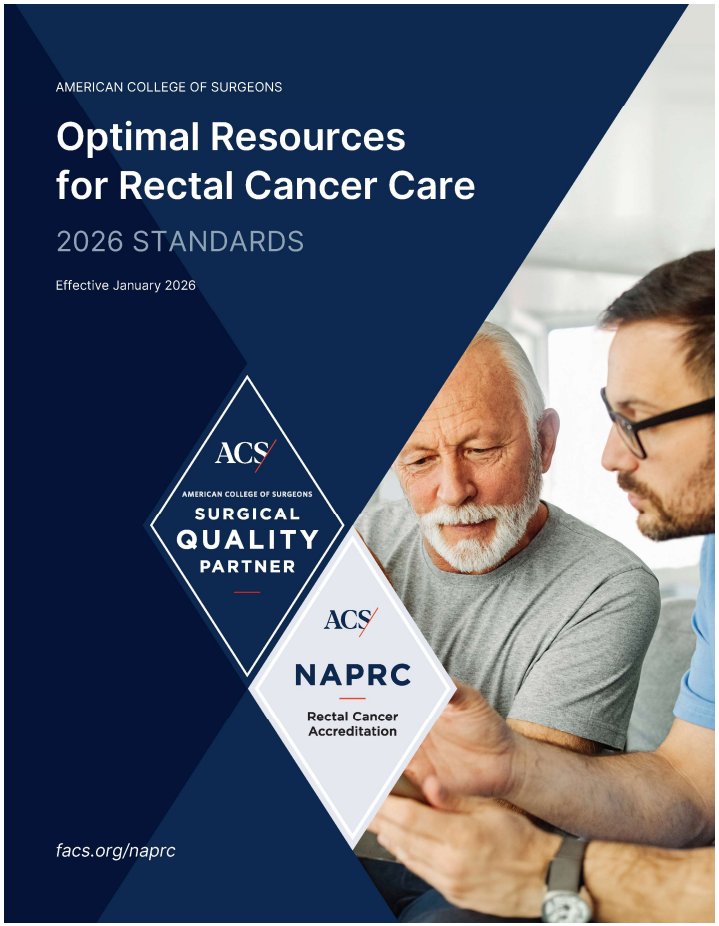
Table 1. Tumor regression schema after neoadjuvant therapy. Adapted from PMID: 26497495.

	Complete Response	Near Complete Response	Incomplete Response
Endoscopy	Flat, white scar Telangiectasia No ulcer or nodularity	Irregular mucosa Small nodules or minor mucosal abnormality Superficial ulceration Mild persisting erythema	Visible tumor
Digital Rectal Exam	Normal	Smooth induration or minor mucosal abnormality	Palpable tumor nodules
MRI-T2WI	Only dark T2 signal, no intermediate T2 signal AND No suspicious lymph nodes	Mostly dark T2 signal, some remaining intermediate signal AND/OR Partial regression of lymph nodes	More intermediate than dark T2 signal, no T2 scar AND/OR No regression of lymph nodes
MRI-DWI	No visible tumor on B800-B1000 signal AND/OR Lack of or low signal on ADC map	Significant regression of signal on B800-B1000 AND/OR Minimal or low residual signal on ADC map	Insignificant regression of signal on B800-B1000 AND/OR Obvious low signal on ADC map

Updates to Imaging – Local Excision

Standard 5.3 and 5.4

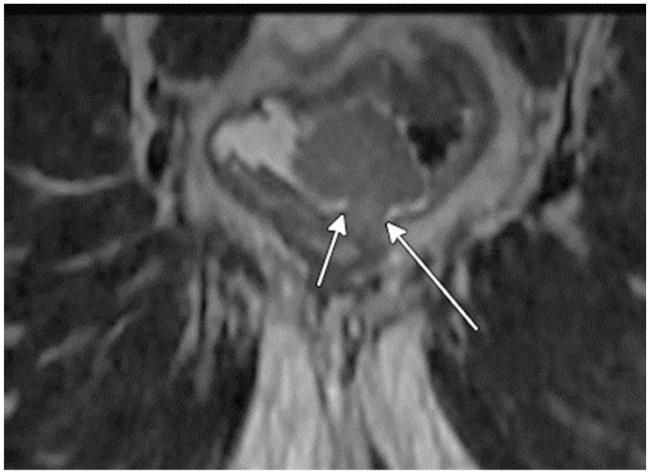
- If invasive rectal cancer is determined via local excision, systemic staging (CT/PET) and local staging (MRI) must be completed within 90 of the signed pathology report diagnosing rectal cancer
- Inflammation after local excision may obstruct visualization of the lesion
- 90-day window for imaging allows potential inflammation to subside

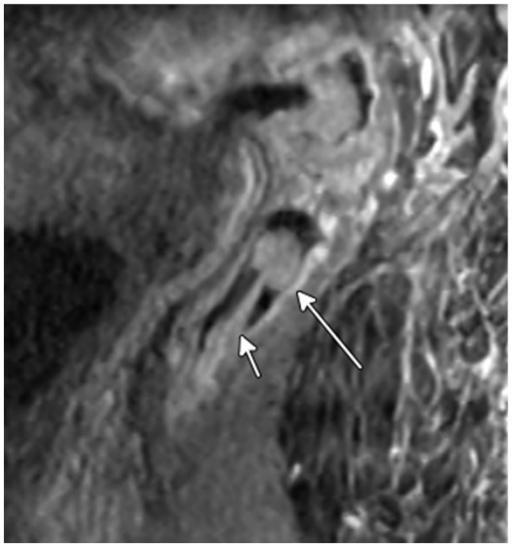


Updates to Imaging – Local Excision

Standard 5.3 and 5.4

- If invasive rectal cancer is determined via local excision, local staging (MRI) must be completed
  - Responds to increase referrals for incompletely removed polyps or unsuspected high-risk polyps such as + margin, T1 depth, LVI
  - Standard MRI staging template was inappropriate
  - Ideally, such a situation would have been avoided
  - Purpose of MRI
    - Any residual mucosal/mural disease
    - Any worrisome LN
    - Assessment quite limited and unclear if efficacious (opinion)





Updates to Imaging – Local Excision
New Template

Required Elements for Standardized Synoptic Reporting: MRI Local Excision Procedure Assessment (Standard 5.4)

Clinical Information:

Procedure Date: [ ]

Procedure Type: [Endoscopic polypectomy/TAE/TAMIS/TEMS/ESD/EMR/NA]

Procedure Location: [___cm from anal verge/NA]

Tattoo placed: [Y/N]

Endo-clip in place? [Y/N]

Procedure Histology: [HGD or invasive cancer only intramucosal (TIS)/invasive cancer involves SM (T1) +/- positive margin/LVI or incomplete polypectomy/NA]

Technique: Multiplanar, multisequence imaging of the pelvis.

Magnet strength: [ ]

IV gadolinium contrast: [ ]

Comparison: [ ]

Rectal Wall:

EXCISION SITE/MUCOSAL ABNORMALITY:

MRI-T2W:

☐ No Focal abnormality seen

☐ Focal abnormality as follows

☐ Scar present

☐ Scar and possible residual tumor (mass-like or polypoid intermediate signal intensity or mucin signal intensity in wall)

☐ Residual tumor/mass

☐ Equivocal finding between residual tumor and post-procedural change

DWI: (with associated low ADC) – restricted diffusion and low ADC in tumor or tumor bed

☐ Present

☐ Absent

☐ Artifact/equivocal

Distance of the inferior margin of treated tumor/area to the anal verge: [ ] cm

Distance of inferior margin to the top of the sphincter complex/anorectal junction: [ ] cm

Craniocaudal length: [ ] cm (comment on any change since prior)

Maximal wall thickness: [ ] cm (comment on any change since prior)

Lymph Nodes:

Mesorectal/superior rectal lymph nodes and/or tumor deposits:

☐ N0 (no visible lymph node or probably reactive)

☐ N + (Meet Dutch Criteria* see below)

☐ Nx (unable to tell reactive vs. malignant nodes)

1. Sensitivity of 51 (85%) of 60 (95% CI: 74%, 92%) and a specificity of 216 (97%) of 221 (95% CI: 95%, 99% (Brown G, Richards CJ, Bourne MW, Newcombe RG, Radcliffe AG, Dallimore NS, Williams GT. Morphologic predictors of lymph node status in rectal cancer with use of high-spatial-resolution MR imaging with histopathologic comparison. Radiology. 2003 May;227(2):371-7. doi: 10.1148/radiol.2272011747. PMID: 12732695.)
2. Presence of a spiculated border and an indistinct border shows sensitivities of 45 and 36%, and specificities of 100 and 100%, respectively. Presence of a mottled heterogeneic pattern shows a sensitivity of 50%, a specificity of 95%. The presence of these three features were strongly correlated with LN positivity ($P < 0.001$, respectively). (Kim JH, Beets GL, Kim MJ, Kessels AG, Beets-Tan RG. High-resolution MR imaging for nodal staging in rectal cancer: are there any criteria in addition to the size? Eur J Radiol. 2004 Oct;52(1):78-83. doi: 10.1016/j.ejrad.2003.12.005. PMID: 15380850.)

Extra-mesorectal lymph nodes: any suspicious?

☐ No

☐ Yes

Extramural Vascular Invasion (EMVI): ☐ No/☐ Yes

Tumor Deposit: ☐ No/☐ Yes

Other: [free text: bones, peritoneal mets, other incidental findings]

Impression:

☐ Rectal Wall

*No visualized rectal wall abnormality

* Scar-only is visualized

*Residual soft tissue at excision site

☐ Worrisome for residual tumor

☐ Equivocal for tumor

☐ Likely post-procedural change

☐ Lymph Nodes

☐ N0 (no visible lymph node or probably reactive)

☐ N + (Meet Dutch Criteria*)

☐ Nx (unable to tell reactive vs. malignant nodes)

Suspicious Extra-mesorectal lymph nodes: ☐ No ☐ Yes (provide location)

***Dutch Baseline Lymph Node Criteria**

☐ N0 (no visible lymph nodes/deposits)

☐ N+ (short axis >= 9 mm)

☐ N+ (short axis 5-9 mm AND at least 2 of the following criteria: round shape/irregular border contour/heterogeneous signal intensity)

☐ N+ (short axis < 5 mm AND round shape AND irregular border contour AND heterogeneous signal intensity)

☐ Nx (all other cases)

Required Elements for Standardized Synoptic Reporting: MRI Local Excision Procedure Assessment (Standard 5.4)

Clinical Information:

Procedure Date: [ ]

Procedure Type: [Endoscopic polypectomy/TAE/TAMIS/TEMS/ESD/EMR/NA]

Procedure Location: [___cm from anal verge/NA]

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Technique: Multiplanar, multisequence imaging of the pelvis.

Magnet strength: [ ]

IV gadolinium contrast: [ ]

Comparison: [ ]

Rectal Wall:

EXCISION SITE/MUCOSAL ABNORMALITY:

MRI-T2W:

- ☐ No Focal abnormality seen
- ☐ Focal abnormality as follows
- ☐ Scar present
- ☐ Scar and possible residual tumor (mass-like or polypoid intermediate signal intensity or mucin signal intensity in wall)
- ☐ Residual tumor/mass
- ☐ Equivocal finding between residual tumor and post-procedural change

DWI: (with associated low ADC) – restricted diffusion and low ADC in tumor or tumor bed

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Distance of the inferior margin of treated tumor/area to the anal verge: [ ] cm

Distance of inferior margin to the top of the sphincter complex/anorectal junction: [ ] cm

Craniocaudal length: [ ] cm (comment on any change since prior)

Extra-mesorectal lymph nodes: any suspicious?

- ☐ No
- ☐ Yes

Extramural Vascular Invasion (EMVI): ☐ No/☐ Yes

Tumor Deposit: ☐ No/☐ Yes

Other: [free text: bones, peritoneal mets, other incidental findings]

Impression:

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*No visualized rectal wall abnormality

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*Residual soft tissue at excision site

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- ☐ Equivocal for tumor
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☐ Nx (all other cases)

SUMMARY

5 Take Home points

- In a NAPRC compliant program 90% of patients have complete local and distant imaging staging for review in MDT
- Nodal drainage cephalad from rectal tumors behooves complete coverage of the pelvic nodal basin up to the inferior mesenteric artery by MRI/CT or a combination
- Templates for baseline and restaging rectal cancer are obligatory and very helpful. These are available at SAR DFP website
- Because of increased referrals after incomplete polypectomies – a separate MRI template is now required, also available at SAR DFP website
- I am happy to host questions/issues directly: gollubm@mskcc.org or via facs.org