

Evidence Discussion (ONC 16.0)

Colorectal (including Appendiceal) and Small Bowel Cancer

Colorectal Cancer Initial work-up/Staging:

- Carcinoma within a polyp that is completely resected does not require advanced imaging
- Invasive cancer at any stage requires advanced imaging with CT of CAP with contrast needed to adequately visualize lung, nodal and especially liver lesions with MRI of abdomen appropriate in the event of unclear liver lesions. The chest CT can identify lung metastases, which occur in approximately 4% to 9% of patients with colon and rectal cancer.¹
- Rectal cancer requires additional dedicated imaging with MRI pelvis that is superior to CT imaging to locally stage this form of colon cancer with endorectal/endoscopic ultrasound (EUS) providing additional staging information when MRI is contraindicated/inconclusive/superficial. MRI is considered superior to EUS due to the latter's limitations in regard to high/bulky tumors, tumor deposits or vascular invasion.²
- PET/CT is reserved for inconclusive CT/MRI imaging and to confirm isolated metastases that are amenable to definitive localized treatment with curative intent

Restaging/Recurrence:

- If recurrence is suspected, CT CAP with contrast is the first line of imaging
- Upon completion of neoadjuvant therapy, to insure the cancer has not progressed prior to definitive surgery, repeat imaging of the chest, abdomen and pelvis is indicated
- With measurable disease or unresected primary disease on chemotherapy, CT imaging is indicated every 2 cycles of treatment to assess response and appropriateness to continue the same treatment or change to new therapy
- MRI abdomen is indicated for inconclusive liver lesion or to better define resectability
- PET/CT may be used in specific situations to better determine cancer recurrence if CT/MRI is inconclusive. These results may allow aggressive interventions (surgery, radiation, liver directed therapy) to take place with goal of cure, explain elevated or rising CEA level or LFTs with negative conventional imaging and can also be useful to differentiate surgical/radiation scarring from cancer. A systemic review and meta-analysis of 11 studies using PET/CT with elevated CEA and negative CT CAP showed a sensitivity of 94% and specificity of 77% in detection of tumor recurrence.³

Surveillance/Follow-up (16.4):

- Up to 95% of recurrences occur in the first 5 years after surgery with 80% occurring in the first 3 years, many of which can still be cured supporting the need for CT imaging
- Given the > 90% cure rate with Stage I cancer, routine imaging is not usually indicated.⁴
- Given the recurrence rate between 20-30% in Stage II-III disease⁴, CT CAP is indicated after completion of surgery (new baseline) and annually for 5 years (2A recommendation).

While the NCCN also supports every 6 month imaging, it is a 2B recommendation based on FACS, COLOFOL, CEA watch and PRODIGE 13 trials⁵

- For Stage IV cancer s/p definitive treatment or being observed off therapy, CT imaging is recommended every 6 months for 2 years then annually for 3 years
- For Stage IV cancer that is measurable and on maintenance therapy, CT imaging is recommended every 3 months for up to 5 years after completion of active treatment
- For rectal cancer treated with transanal excision alone, due to higher risk of local recurrence, endorectal ultrasound (EUS) should be performed every 6 months for 5 years with pelvic MRI reserved for abnormal findings on EUS or EUS can't be performed as well as new signs/symptoms concerning for local recurrence⁶
- Treatment with chemoradiation alone (no surgery) is becoming more common in the setting of rectal cancer in the presence of a complete response to therapy with 5 year survival rates exceeding 80% in several trials.⁷ These members require additional follow-up studies to include MRI pelvis every 6 months for 3 years as well as DRE/endoscopy every 3-4 months for 2 years and every 6 months for 3 more years to assess for local recurrence even without s/s of recurrence.⁸
- Pseudomyxoma peritonei is a condition associated with appendiceal cancer and requires close imaging follow-up due to high risk of recurrence thus imaging with CT/MRI is indicated every 3 months for year 1 and every 6 months for 4 more years

Small Bowel Cancer Initial Work-up/Staging:

- Cancerous polyps that are completely removed do not require imaging
- Invasive cancer at any stage requires advanced imaging with CT of CAP with contrast needed to adequately visualize lung, nodal and especially liver lesions with MRI of abdomen/pelvis appropriate in the event the CT is inconclusive or cannot be performed

Restaging/Recurrence:

- If recurrence is suspected, CT CAP with contrast is the first line of imaging
- With measurable disease or unresected primary disease on chemotherapy, CT imaging is indicated every 2 cycles of treatment to assess response and appropriateness to continue the same treatment or change to new therapy
- MRI abdomen is indicated for inconclusive liver lesion on CT
- PET/CT may be used in specific situations to better determine cancer recurrence if CT/MRI is inconclusive. These results may allow aggressive interventions (surgery, radiation, liver directed therapy) to take place with goal of cure and also explain elevated or rising CEA level or LFTs with negative conventional imaging

Surveillance/Follow-up:

- Stage I, II and III cancers undergo CT CAP at completion of surgery then annually for 5 years, similar to Colorectal guidelines due to lack of data regarding optimal approach⁹

- For Stage IV cancer s/p definitive treatment or being observed off therapy, CT imaging is recommended every 6 months for 2 years then annually for 3 years
- For Stage IV cancer that is measurable and on maintenance therapy, CT imaging is recommended every 3 months for up to 5 years after completion of active treatment

1. Qiu M, Hu J, Yang D, et al. Pattern of distant metastases in colorectal cancer: a SEER based study. *Oncotarget* 2015;6:38658-38666. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/26484417>
2. Balyasnikova S, Brown G. Optimal imaging strategies for rectal cancer staging and ongoing management. *Curr Treat Options Oncol* 2016;17:32. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/27255100>.
3. Lu YY, Chen JH, Chien CR, et al. Use of FDG-PET or PET/CT to detect recurrent colorectal cancer in patients with elevated CEA: a systematic review and meta-analysis. *Int J Colorectal Dis* 2013;28:1039- 1047. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/23407908>.
4. American Cancer Society. [Colorectal Cancer Survival Rates | Colorectal Cancer Prognosis | American Cancer Society](#)
5. NCCN Guidelines Version 2.2024, Colon Cancer, discussion section pages MS 78-79.
6. NCCN Guidelines Version 2.2024, Colon Cancer, discussion section page MS 49.
7. Byun H, Koom W. A Practical Review of Watch and Wait Approach in Rectal cancer. *Radiation Oncology Journal* 2023, Vol 41: pp 4-11.
8. NCCN Guidelines Version 2.2024, Colon Cancer, REC-10A
9. NCCN Guidelines Version 3.2024, Small Bowel Adenocarcinoma, discussion section page MS-16