

I Have been Diagnosed with CRC, what is next?

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Colorectal cancer

Stage
TNM

Laboratory

Genetic testing

Molecular profile

Others

Initial staging

CT scan of CAP/ PET scan

MRI of pelvis- Rectal cancer

Endoscopic ultrasound- Rectal cancer

Labs- CEA, CBC, CMP

Laboratory studies

CEA- Help post-treatment follow-up
(Elevated preoperative levels that do not normalize following surgical resection can imply the presence of persistent disease)

CEA should not used as a screening test

CMP, CBC- Iron panel

Genetic testing

Lynch syndrome -
*MLH1, MSH2,
MSH6, PMS2 AND
EPCAM*

FAP

MUTYH

Juvenile polyposis
syndrome

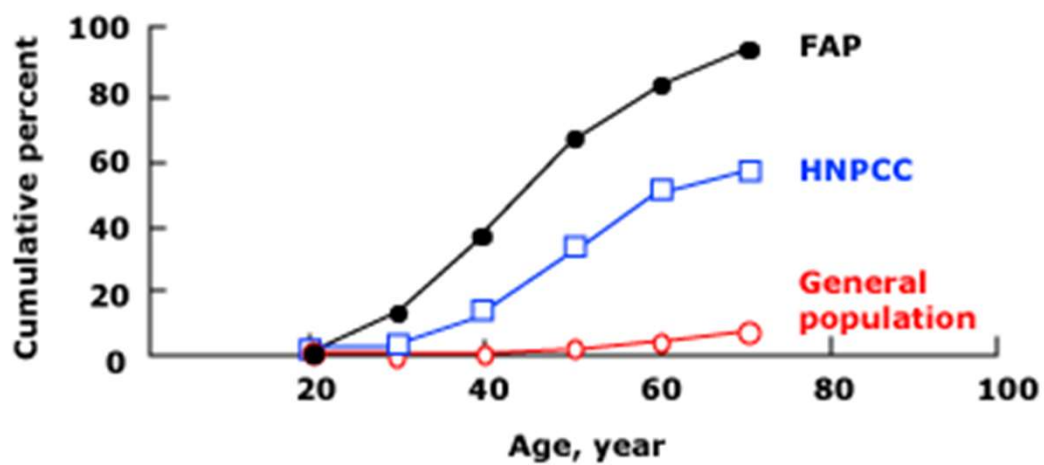
Cowden syndrome

Li-Fraumeni
syndrome

Attenuated FAP

Peutz-Jeghers
syndrome

Serrated
(hyperplastic)
polyposis syndrome



Rational for initial staging scans

20 percent - have distant metastatic disease at the time of presentation

Spread by lymphatic, hematogenous, contiguous and transperitoneal routes

The most common metastatic sites are the regional lymph nodes, liver, lungs, and peritoneum

Tumors in distal rectum- may metastasize initially to the lungs rather than liver because the inferior rectal vein drains into the inferior vena cava rather than into the portal venous system

Early-stage colon cancer

Initial staging scans-negative

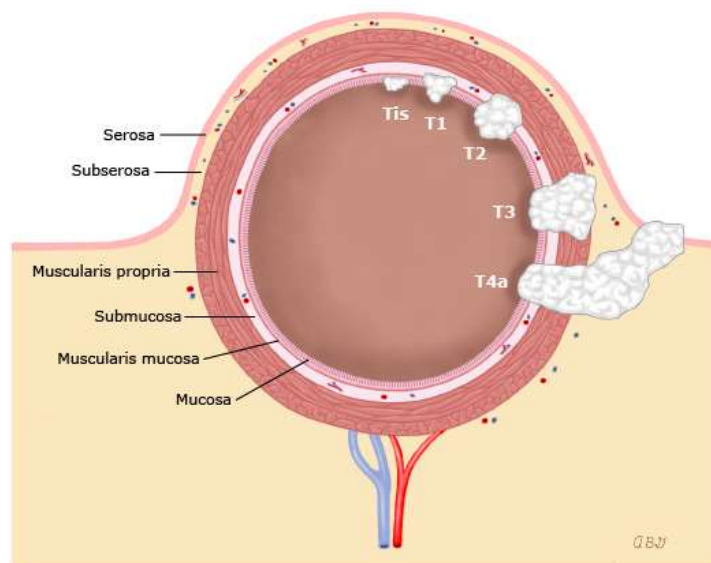
Surgery

Pathologic stage- Risk of recurrence

Primary tumor (T)	
T category	T criteria
TX	Primary tumor cannot be assessed
T0	No evidence of primary tumor
Tis	Carcinoma <i>in situ</i> , intramucosal carcinoma (involvement of lamina propria with no extension through muscularis mucosae)
T1	Tumor invades the submucosa (through the muscularis mucosa but not into the muscularis propria)
T2	Tumor invades the muscularis propria
T3	Tumor invades through the muscularis propria into pericolorectal tissues
T4	Tumor invades* the visceral peritoneum or invades or adheres [†] to adjacent organ or structure
T4a	Tumor invades* through the visceral peritoneum (including gross perforation of the bowel through tumor and continuous invasion of tumor through areas of inflammation to the surface of the visceral peritoneum)
T4b	Tumor directly invades* or adheres [†] to adjacent organs or structures

* Direct invasion in T4 includes invasion of other organs or other segments of the colorectum as a result of direct extension through the serosa, as confirmed on microscopic examination (for example, invasion of the sigmoid colon by a carcinoma of the cecum) or, for cancers in a retroperitoneal or subperitoneal location, direct invasion of other organs or structures by virtue of extension beyond the muscularis propria (ie, respectively, a tumor on the posterior wall of the descending colon invading the left kidney or lateral abdominal wall; or a mid or distal rectal cancer with invasion of prostate, seminal vesicles, cervix, or vagina).

[†] Tumor that is adherent to other organs or structures, grossly, is classified cT4b. However, if no tumor is present in the adhesion, microscopically, the classification should be pT1-4a depending on the anatomical depth of wall invasion. The V and L classification should be used to identify the presence or absence of vascular or lymphatic invasion whereas the PN prognostic factor should be used for perineural invasion.



Regional lymph nodes (N)	
N category	N criteria
NX	Regional lymph nodes cannot be assessed
N0	No regional lymph node metastasis
N1	One to three regional lymph nodes are positive (tumor in lymph nodes measuring ≥ 0.2 mm), or any number of tumor deposits are present and all identifiable lymph nodes are negative
N1a	One regional lymph node is positive
N1b	Two or three regional lymph nodes are positive
N1c	No regional lymph nodes are positive, but there are tumor deposits in the: <ul style="list-style-type: none"> Subserosa Mesentery Nonperitonealized pericolic, or perirectal/mesorectal tissues
N2	Four or more regional nodes are positive
N2a	Four to six regional lymph nodes are positive
N2b	Seven or more regional lymph nodes are positive
Distant metastasis (M)	
M category	M criteria
M0	No distant metastasis by imaging, etc; no evidence of tumor in distant sites or organs. (This category is not assigned by pathologists.)
M1	Metastasis to one or more distant sites or organs or peritoneal metastasis is identified
M1a	Metastasis to one site or organ is identified without peritoneal metastasis
M1b	Metastasis to two or more sites or organs is identified without peritoneal metastasis
M1c	Metastasis to the peritoneal surface is identified alone or with other site or organ metastases

Prognostic stage groups			
When T is...	And N is...	And M is...	Then the stage group is...
Tis	N0	M0	0
T1, T2	N0	M0	I
T3	N0	M0	IIA
T4a	N0	M0	IIB
T4b	N0	M0	IIC
T1-T2	N1/N1c	M0	IIIA
T1	N2a	M0	IIIA
T3-T4a	N1/N1c	M0	IIIB
T2-T3	N2a	M0	IIIB
T1-T2	N2b	M0	IIIB
T4a	N2a	M0	IIIC
T3-T4a	N2b	M0	IIIC
T4b	N1-N2	M0	IIIC
Any T	Any N	M1a	IVA
Any T	Any N	M1b	IVB
Any T	Any N	M1c	IVC

TNM: Tumor, Node, Metastasis; AJCC: American Joint Committee on Cancer; UICC: Union for International Cancer Control.

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T4a	N0	M0	IIB
T4b	N0	M0	IIC
T1-T2	N1/N1c	M0	IIIA
T1	N2a	M0	IIIA
T3-T4a	N1/N1c	M0	IIIB
T2-T3	N2a	M0	IIIB
T1-T2	N2b	M0	IIIB
T4a	N2a	M0	IIIC
T3-T4a	N2b	M0	IIIC
T4b	N1-N2	M0	IIIC
Any T	Any N	M1a	IVA
Any T	Any N	M1b	IVB
Any T	Any N	M1c	IVC

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Early-stage colon cancer

Adjuvant chemotherapy-
For all stage III
and high-risk
stage II

Eradicate micro
metastatic
disease and
reduce or delay
on set of
recurrence

Surveillance

Every 3 to 6
months- H& P,
labs, CT scans,
colonoscopy

Metastatic colon cancer

Limited metastatic –Goal is cure

Unresectable- Palliative chemotherapy (Average life expectancy is 30 months)

Molecular testing – NGS testing (dMMR, MSI-H, HER 2, TRK, BRAF)

Early-stage rectal cancer

Stage I (T1 and T2) – Surgery

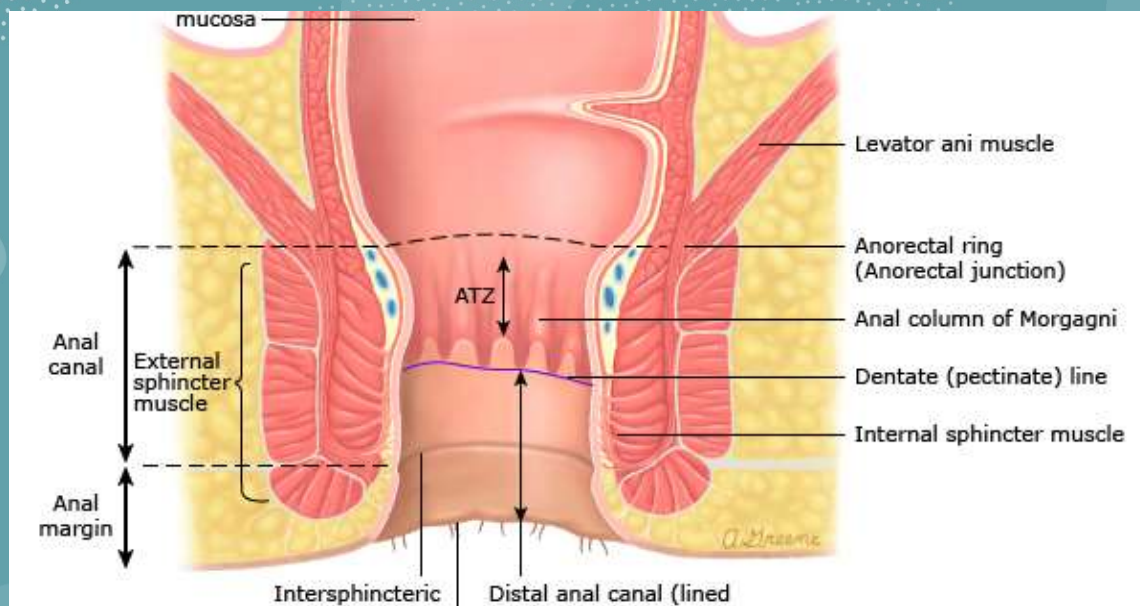
Stage IIA- T3- Neoadjuvant chemo-radiation therapy- surgery

Stage IIB -III – Total neoadjuvant chemotherapy and radiation- surgery

MSI-H and dMMR- Neoadjuvant immunotherapy

Adjuvant chemotherapy

Surveillance



Metastatic rectal cancer

Palliative chemotherapy

Palliative radiation- To prevent bleeding or obstruction

Palliative surgery- Diverting colostomy for obstruction

Summary

Stage- Determine treatment goals and options

Early detection- Better outcome

Limited metastatic disease is potentially curable

Molecular testing allows targeted therapy -better response

Genetic testing- determine appropriate surveillance

Thank you!