Colon and Rectal Cancers

FCDS 2013-2014 Educational Webcast Series

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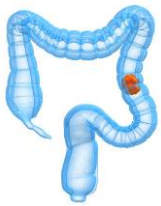

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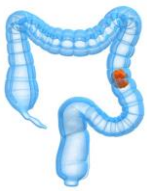
Outline

- Overview – Incidence/Mortality/Survival
- Risk Factors – Signs and Symptoms
- Anatomy of the Colon and Rectum
- Screening Recommendations
- Multiple Primary Rules
- Histology Coding Rules
- Genetic and Biologic Tumor Markers
- Staging – Summary Stage, TNM, CSv02.04
- Treatment Planning / Coding Treatment
- NCCN Treatment Guidelines
- Text Documentation



http://safetyca.info

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Overview

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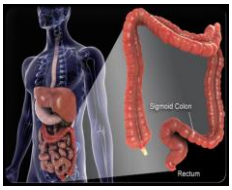
Overview



medicinenet.com/colorectal_cancer_pictures_slideshow

- 1 out of every 20 persons in the U.S. will develop colon or rectal cancer in their lifetime (est. 5%).
- Colorectal cancer is the #2 cause of cancer deaths in the U.S.
- Colorectal cancer often begins as a benign growth; a polyp.
- Adenomas are a type of polyp and are benign tumors of the tissue lining the colon or rectum.
- Most adenomas are benign.
- However, some adenomas have the potential to develop into cancer over the long term.
- When removed early, polyps are prevented from developing into malignant cancer.

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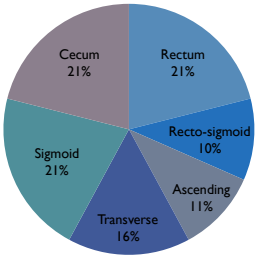
Anatomic Distribution

Distribution of colorectal cancers by subsite



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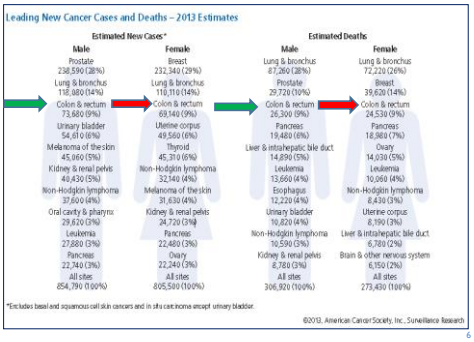
Incidence and Mortality



Leading New Cancer Cases and Deaths – 2013 Estimates

Estimated New Cases*		Estimated Deaths	
Male	Female	Male	Female
Prostate 238,590 (28%)	Breast 232,340 (29%)	Lung & bronchus 87,260 (28%)	Lung & bronchus 72,220 (26%)
Lung & bronchus 118,080 (14%)	Lung & bronchus 110,110 (14%)	Prostate 29,720 (10%)	Breast 39,620 (14%)
Colon & rectum 73,680 (9%)	Colon & rectum 69,140 (9%)	Colon & rectum 26,300 (9%)	Colon & rectum 24,530 (9%)
Urinary bladder 54,610 (6%)	Uterine corpus 49,560 (6%)	Pancreas 19,480 (6%)	Pancreas 18,980 (7%)
Melanoma of the skin 45,960 (5%)	Thyroid 45,310 (6%)	Liver & intrahepatic bile duct 14,890 (5%)	Ovary 14,030 (5%)
Kidney & renal pelvis 40,430 (5%)	Non-Hodgkin lymphoma 32,540 (4%)	Leukemia 13,660 (4%)	Leukemia 10,060 (4%)
Non-Hodgkin lymphoma 37,600 (4%)	Melanoma of the skin 31,630 (4%)	Esophagus 12,220 (4%)	Non-Hodgkin lymphoma 8,430 (3%)
Oral cavity & pharynx 29,620 (3%)	Kidney & renal pelvis 24,720 (3%)	Urinary bladder 10,820 (4%)	Uterine corpus 8,190 (3%)
Leukemia 27,880 (3%)	Pancreas 22,480 (3%)	Non-Hodgkin lymphoma 10,590 (3%)	Liver & intrahepatic bile duct 6,780 (2%)
Pancreas 22,740 (3%)	Ovary 22,240 (3%)	Kidney & renal pelvis 8,780 (3%)	Brain & other nervous system 6,150 (2%)
All sites 854,790 (100%)	All sites 805,580 (100%)	All sites 306,920 (100%)	All sites 273,430 (100%)

*Excludes basal and squamous cell skin cancers and in situ carcinoma except urinary bladder.

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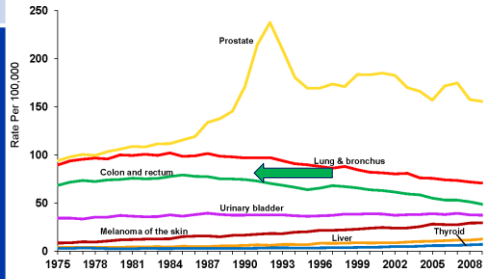
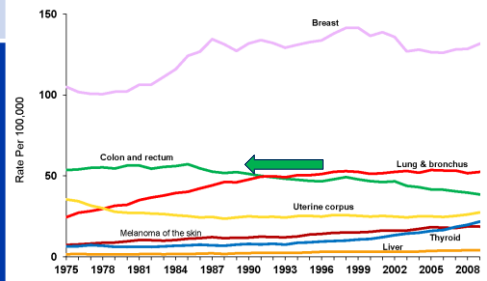
Cancer Incidence Rates* Among Men, US, 1975-2009



*Age-adjusted to the 2000 US standard population and adjusted for delays in reporting.
Source: Surveillance, Epidemiology, and End Results Program, Delay-adjusted Incidence database: SEER Incidence Delay-adjusted Rates, 9 Registries, 1975-2009, National Cancer Institute, 2012.

Cancer Incidence Rates* Among Women, US, 1975-2009



*Age-adjusted to the 2000 US standard population and adjusted for delays in reporting.
Source: Surveillance, Epidemiology, and End Results Program, Delay-adjusted Incidence database: SEER Incidence Delay-adjusted Rates, 9 Registries, 1975-2009, National Cancer Institute, 2012.

Incidence and Mortality

Table 1: Colorectal Cancer Incidence and Mortality Rates* by Race/Ethnicity, 2003-2007

	Incidence		Mortality	
Race/Ethnicity	Men	Women	Men	Women
Non-Hispanic White	56.8	41.9	20.9	14.6
Non-Hispanic Black	68.3	51.6	30.5	21.0
Asian American/Pacific Islander	42.8	32.5	13.2	9.9
American Indian/Alaska Native†	43.2	34.4	19.2	12.9
Hispanic/Latino	49.2	34.8	15.6	10.5
All persons	57.2	42.5	21.2	14.9

*Per 100,000, age adjusted to the 2000 US standard population.
†Statistics based on data from Contract Health Service Delivery Area (CHSDA) counties.
Source: Incidence: North American Association of Central Cancer Registries. Mortality: National Center for Health Statistics, Centers for Disease Control and Prevention, as provided by the Surveillance, Epidemiology, and End Results Program, National Cancer Institute.

Source: ACS Colorectal Cancer Facts and Figures 2011-2013

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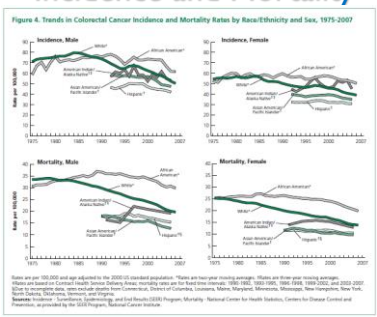
Incidence and Mortality



Source: ACS Colorectal Cancer Facts and Figures 2011-2013

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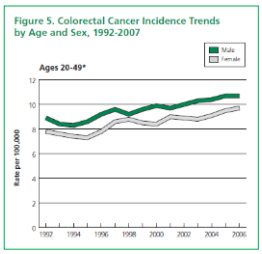
Incidence and Mortality



Source: ACS Colorectal Cancer Facts and Figures 2011-2013

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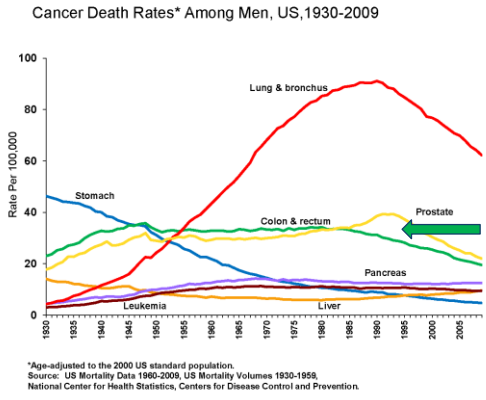
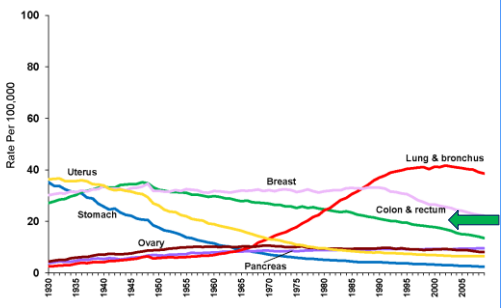


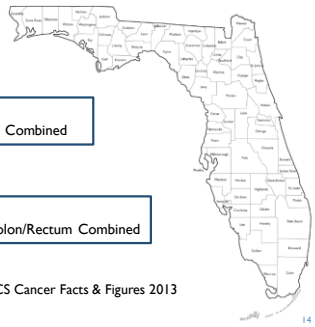
Cancer Death Rates* Among Women, US,1930-2009



*Age-adjusted to the 2000 US standard population.
Source: US Mortality Data 1960-2009, US Mortality Volumes 1930-1959, National Center for Health Statistics, Centers for Disease Control and Prevention.

Incidence and Mortality

Estimated Number of 2013 Florida New Cancer Cases and Deaths



New Cases

- 10,290 Colon/Rectum Combined

Deaths

- 3,640 Colon/Rectum Combined

ACS Cancer Facts & Figures 2013

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Survival

Five-year Relative Survival Rates* (%) by Stage at Diagnosis, 2002-2008

	All Stages	Local	Regional	Distant
Breast (female)	89	98	84	24
Colon & rectum	64	90	70	12
Esophagus	17	38	20	3
Kidney†	71	91	64	12
Larynx	61	76	42	35
Liver†	15	28	10	3
Lung & bronchus	16	52	25	4
Melanoma of the skin	91	98	62	15
Oral cavity & pharynx	62	82	57	35

	All Stages	Local	Regional	Distant
Ovary	44	92	72	27
Pancreas	6	23	9	2
Prostate	99	100	100	28
Stomach	27	62	28	4
Testis	95	99	96	73
Thyroid	98	100	97	54
Urinary bladder†	78	70	33	6
Uterine cervix	68	91	57	16
Uterine corpus	82	95	67	16

*Rates are adjusted for normal life expectancy and are based on cases diagnosed in the SEER 18 areas from 2002-2008, followed through 2009.
†Includes renal pelvis. ‡Includes intrahepatic bile duct. §Rate for in situ cases is 96%.
Local: an invasive malignant cancer confined entirely to the organ of origin. **Regional:** a malignant cancer that 1) has extended beyond the limits of the organ of origin directly into surrounding organs or tissues; 2) involves regional lymph nodes by way of lymphatic system; or 3) has both regional extension and involvement of regional lymph nodes. **Distant:** a malignant cancer that has spread to parts of the body remote from the primary tumor either by direct extension or by discontinuous metastasis to distant organs, tissues, or via the lymphatic system to distant lymph nodes.
Source: Howlader N, Noone AM, Krapcho M, et al. (eds). *SEER Cancer Statistics Review, 1975-2009*, National Cancer Institute, Bethesda, MD, www.seer.cancer.gov/csr/1975_2009/, 2012.

American Cancer Society, Surveillance Research 2013

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Observed Survival by AJCC Stage

AJCC TNM Stage	5-year Observed Survival Rate
I	74%
IIA	67%
IIB	59%
IIC	37%
IIIA	73%*
IIIB	46%*
IIIC	28%
IV	6%

*In this study, survival was better for some stage III cancers than for some stage II cancers. The reasons for this are not clear.

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Trends in Five-year Relative Cancer Survival Rates (%), 1975-2008

Site	1975-1977	1987-1989	2002-2008
All sites	49	56	68
Breast (female)	75	84	90
Colon	51	61	65
Leukemia	34	43	58
Lung & bronchus	12	13	17
Melanoma	82	88	93
Non-Hodgkin lymphoma	47	51	71
Ovary	36	38	43
Pancreas	2	4	6
Prostate	68	83	100
Rectum	48	58	68
Urinary bladder	73	79	80

5-year relative survival rates based on patients diagnosed from 2002 to 2008, all followed through 2008.
Source: *SEER Cancer Statistics Review 1975-2009* (SEER 9 registries), National Cancer Institute, 2012.

RISK FACTORS

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Table 4. Summary of Major Risk Factors for Colorectal Cancer

	Relative Risk*
Factors that increase risk:	
Heredity and Medical History	
Family history	
1 first-degree relative[24]	2.2
more than 1 relative[24]	4.0
relative with diagnosis before age 45[27]	3.9
Inflammatory bowel disease[24]	
Crohn disease (colon)	2.6
Ulcerative colitis	
colon	2.8
rectum	1.9
Diabetes[28]	1.2
Other factors	
Obesity[30]	1.2
Red meat consumption[30]	1.2
Processed meat consumption[30]	1.2
Smoking[31]	1.2
Alcohol consumption[32]	1.1
Factors that decrease risk:	
Physical activity (colon)[33]	
Men	0.8
Women	0.7
Calcium[34]	0.8
Milk consumption[29]	0.9

*Relative risk compares the risk of disease among people with a particular "exposure" to the risk among people without that exposure. Dietary risk factors are usually evaluated by comparing highest with lowest consumption. If the relative risk is greater than 1.0, then risk is higher among exposed than unexposed persons. Relative risks less than 1.0 indicate a protective effect.

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Prevention

Current Recommendations for the Prevention of Colorectal Cancer

1. **Get screened regularly.**
2. **Maintain a healthy weight throughout life.**
3. **Adopt a physically active lifestyle.**
4. **Consume a healthy diet with an emphasis on plant sources; specifically:**
   - Choose foods and beverages in amounts that help achieve and maintain a healthy weight.
   - Eat 5 or more servings of a variety of vegetables and fruits each day.
   - Choose whole grains in preference to processed (refined) grains.
   - Limit your consumption of processed and red meats.
5. **If you drink alcoholic beverages, limit consumption.**

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SIGNS AND SYMPTOMS

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Signs and Symptoms

- Change in bowel habits
- Blood in the stool or in the toilet after a bowel movement (bright red or dark black)
- Change in shape of stool
- Diarrhea, constipation, or feeling that the bowel does not empty completely > 1 week
- Acute obstruction and/or perforation
- General abdominal discomfort (frequent gas pains, bloating, fullness, or cramps)
- Weight loss with no known reason
- Weakness / Fatigue
- Anemia

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SCREENING

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Colorectal Cancer Screening Guidelines*

Beginning at age 50, men and women should follow one of the following examination schedules:

Test	Time interval
Fecal occult blood test	Annual
Flexible sigmoidoscopy	5 yrs
Double contrast barium enema	5 yrs
Colonoscopy	10 yrs
CT Colonography	5 yrs

*For people at average risk; individuals at higher risk should talk with a doctor about a different testing schedule.

Screening Recommendation Details

Colorectal	Men and women, ages 50+	Fecal occult blood test (FOBT) with at least 50% test sensitivity for cancer, or fecal immunochemical test (FIT) with at least 50% test sensitivity for cancer, **or**	Annual, starting at age 50. Testing at home with adherence to manufacturer's recommendation for collection techniques and number of samples is recommended. FOBT with the single stool sample collected on the clinician's fingertip during a digital rectal examination is not recommended. Guaiac based toilet bowel FOBT tests also are not recommended. In comparison with guaiac-based tests for the detection of occult blood, immunochemical tests are more patient-friendly, and are likely to be equal or better in sensitivity and specificity. There is no justification for repeating FOBT in response to an initial positive finding.
		Stool DNA test**, **or**	Interval uncertain, starting at age 50
		Flexible sigmoidoscopy (FSIG), **or**	Every 5 years, starting at age 50. FSIG can be performed alone, or consideration can be given to combining FSIG performed every 5 years with a highly sensitive gFOBT or FIT performed annually.
		Double contrast barium enema (DCBE), **or**	Every 5 years, starting at age 50
		Colonoscopy	Every 10 years, starting at age 50
		CT Colonography	Every 5 years, starting at age 50

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Screening High Risk Populations

- Individuals at High Risk Include:
  - Family History – 1st degree relative
  - Family History – more than 1 relative
  - Family History – relative with dx < age 45
  - Personal History – Inflammatory bowel disease
    - Crohn's Disease
    - Ulcerative Colitis
  - Personal History - Diabetes
- Screening should begin before age 50
- Colonoscopy is recommended screening method
- Discuss your personal risk and routine screening schedule with your personal healthcare provider

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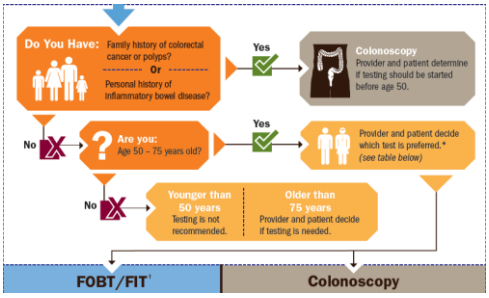
Choosing the Right Test



SOURCE:Vital Signs 2013 and USPSTF http://www.uspreventiveservicestaskforce.org/uspstf/uspscolo.htm

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Choosing the Right Test

FOBT/FIT[1]	Colonoscopy
Key facts	**Key facts**
· Reduces death from colorectal cancer	· Reduces death from colorectal cancer
· Safe, available, and easy to complete	· Can prevent cancer by removing polyps (or abnormal growths in the colon) during test
· Done on your own at home and returned	· Examines entire colon
· Finds cancer early by finding blood in the stool	· Finds most cancers or polyps that are present at the time of the test
· Finds most cancers early when done every year	· Done every 10 years if no polyps are found
Things to consider	**Things to consider**
· May produce positive test results, even when no polyps or cancer are in the colon	· Stomach pain, gas or bloating is possible before, during or after test
· When the test is positive colonoscopy is required	· Must be performed at a hospital or clinic, usually with sedation or anesthesia, and someone must go with the person to take him or her home after the test
· Person testing themselves comes into brief close contact with stool samples on a test kit	· A clear liquid diet is required before test
	· Must take medication that will cause loose bowel movements to clean out the colon prior to test
	· Likely needs to take a day off work/activities
	· Small risk of serious complications (for example, bleeding or perforated colon)

[1] *Guaiac Fecal Occult Blood Test (FOBT) or Fecal Immunochemical Test (FIT)*

**Flexible sigmoidoscopy may not be readily available and has largely been replaced by colonoscopy in the US.*

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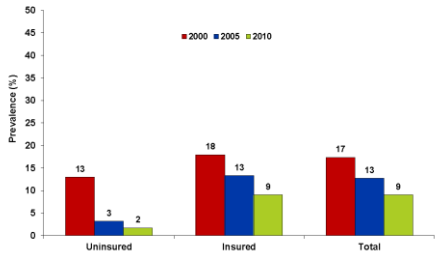
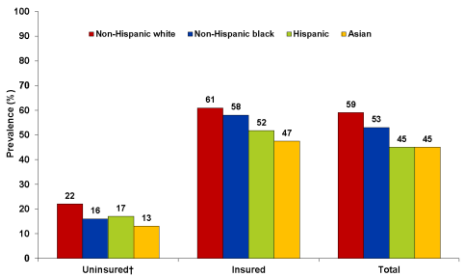
Trends in the Prevalence of Fecal Occult Blood Test* by Health Insurance Status, US, 2000-2010



*A fecal occult blood test in the past year among adults ≥ 50 years; estimates age-adjusted to the 2000 US standard population. Source: National Health Interview Survey, National Center for Health Statistics, Centers for Disease Control and Prevention.

Flexible Sigmoidoscopy or Colonoscopy Prevalence* by Race/Ethnicity and Health Insurance Status, US, 2010



* A sigmoidoscopy within five years or a colonoscopy within 10 years among adults ≥ 50; estimates age-adjusted to the 2000 US standard population. Source: National Health Interview Survey, National Center for Health Statistics, Centers for Disease Control and Prevention.

Table 6. Colorectal Cancer Screening (%) among Adults Aged 50 and Older in the US, 2008

	FOBT*	Endoscopy†	Either FOBT or Endoscopy‡
Gender			
Men	10.3	52.2	54.9
Women	9.7	48.6	52.0
Age (years)			
50–64	9.1	45.7	49.1
65+	11.1	55.5	58.1
Race/Ethnicity			
White (non-Hispanic)	10.3	52.7	56.0
African American (non-Hispanic)	8.9	47.3	48.9
Asian§	12.1	42.6	47.8
American Indian/ Alaskan Native¶	4.5	31.7	33.1
Hispanic/Latino	7.8	34.6	37.2
Education (years)			
11 or fewer	8.1	34.0	37.3
12	8.1	48.1	50.8
13 to 15	12.9	52.2	56.3
16 or more	10.8	61.9	64.5
Health Insurance			
Yes	10.3	52.6	55.7
No	8.8	12.7	19.5
Immigration			
Born in US	10.1	51.9	55.0
Born in US Territory	5.8	42.3	45.9
In US less than 10 years	8.0	22.5	28.0
In US 10 years or more	9.7	38.7	41.9
Total	**10.0**	**50.2**	**53.2**

Who Gets Routine Colorectal Cancer Screening Among U.S. Adults Age 50>

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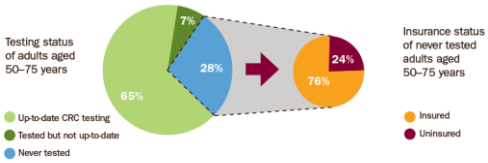
23 Million Adults Never Screened



SOURCE: Behavioral Risk Factor Surveillance System, 2012

SOURCE:Vital Signs 2013 and USPSTF http://www.uspreventiveservicestaskforce.org/uspstf/uspscolo.htm

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23 Million Adults Never Screened

- People less likely to get tested are; Hispanics, people aged 50–64, men, American Indians or Alaska Natives, and those who don't live in a city.
- People with lower education and income are less likely to get tested.
- About 2 of every 3 adults who have never been tested for colorectal cancer actually have a regular doctor and health insurance that could pay for the test.
- Many people do not know they need to be tested and are not notified when it is time to be tested.

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ANATOMY

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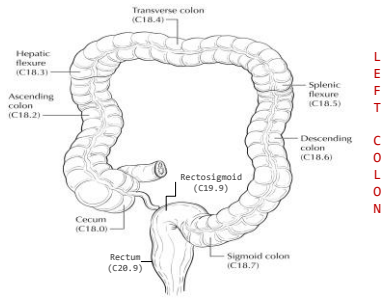
Colon and Rectum

RIGHT COLON



LEFT COLON

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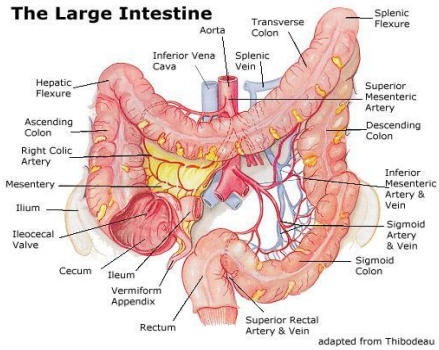
The Large Intestine



adapted from Thibodeau

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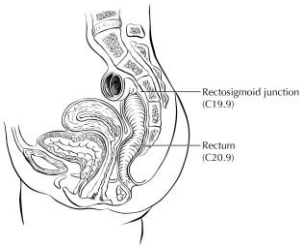
Rectosigmoid and Rectum



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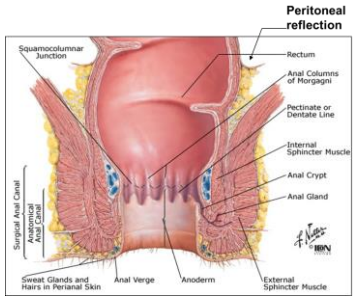
Rectum – Anorectum – Anus



Source: www.analcancerinfo.ucsf.edu

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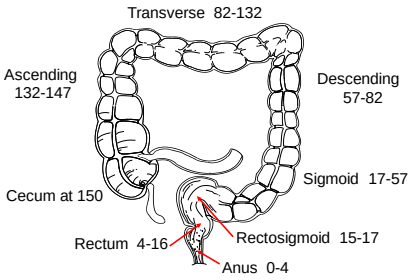
Colonoscopy Measurements



Distance from Anal Verge (approximations only)
Adapted from AJCC Cancer Staging Manual

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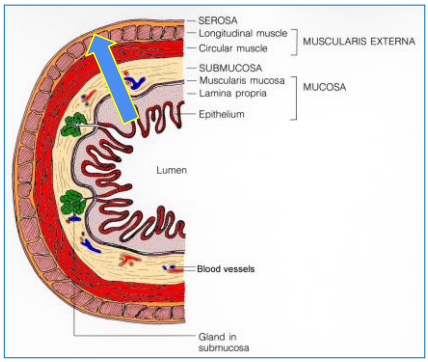

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"Non-Peritonealized" Surface

- Some colon surfaces have no serosa at the exterior surface (around the hollow organ)
- The serosa acts as barrier for tumors that begin on inside surface of the colon and invade down into the mucosa and through the wall of the colon (the serosa).
- When there is no serosa – you lose a natural barrier that helps contain the colon cancer
- Non-Peritonealized Surfaces in Colon-Rectum:
  - Entire Rectum – no serosa on any surface
  - Descending Colon – no serosa covering posterior surfaces
  - Ascending Colon – no serosa covering posterior surfaces

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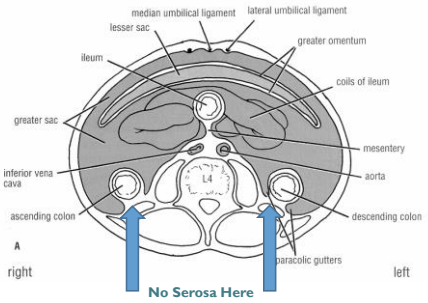
"Non-Peritonealized" Surface

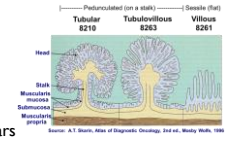


Source: *Clinical Anatomy for Medical Students, 5th Edition*, Richard S. Snell. Little, Brown and Company, 1995.

42

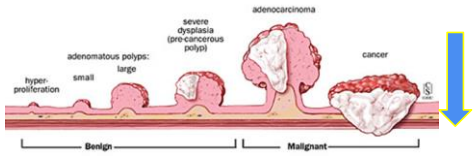
Polyps and Colon Cancer

- 95-98% of colon cancers - adenocarcinoma
  - Most originate in polyps or adenomas
  - But, only 10% of adenomas develop into cancers
- Types of adenoma
  - Tubular
  - Villous
  - Tubulo-villous
- Process takes up to 10 years
- De Novo Cancers – mucinous, signet ring
  - >10% of all colon ca are mucinous (>50% mucin production)
  - <1% of all colon ca are signet ring cell (>50% signet rings)



43

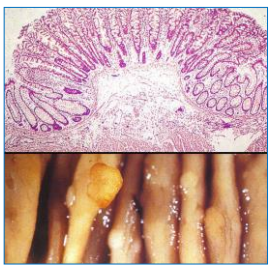
Polyps and Colon Cancer



http://hopkinscoloncancercenter.org

44

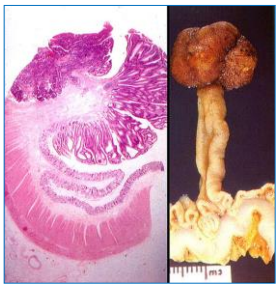
Polyps and Colon Cancer



http://www.pathology.pitt.edu/lectures/gi/colon-a/14.htm

45

Polyps and Colon Cancer



http://www.pathology.pitt.edu/lectures/gi/colon-a/16.htm

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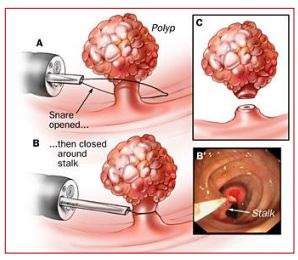
Polyps and Colon Cancer



http://hopkinscoloncancercenter.org

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Polyps and Colon Cancer

http://www.pathology.pitt.edu/lectures/gi/colon-a/17.htm

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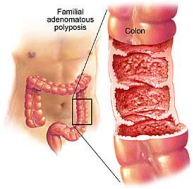
Polyps and Colon Cancer



http://www.mayoclinic.org/images

http://www.mlibrary.med.utah.edu

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Polyps and Colon Cancer

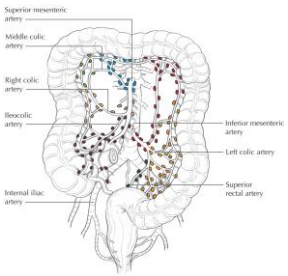
ESTIMATED RISK FOR COLON CANCER BY SYNDROME

Syndrome	Gene(s)	Risk
FAP (familial adenomatous polyposis)	*APC*	90% by age 45
Attenuated FAP	*APC*	69% by age 80
Lynch (HNPCC)	*MLH1, MSH2, MSH6 PMS2, EPCAM*	40% to 80% by age 75
MUTYH-associated polyposis	*MUTYH*	35% to 53%
Peutz-Jeghers	*STK11*	39% by age 70
Juvenile polyposis	*BMPR1A, SMAD4*	17% to 68% by age 60

http://www.ambrygen.com

50

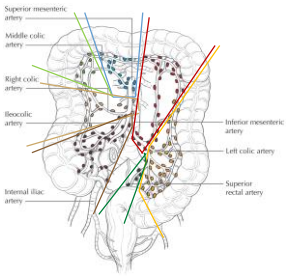
Lymphatics of Colon / Rectum



The regional lymph nodes of the colon and rectum are colored by anatomic location.

51

Lymphatics of Colon / Rectum



The regional lymph nodes of the colon and rectum are colored by anatomic location.

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"Tumor Deposits"

- Definition
  - Separate tumor nodules or tumor deposits of malignant cells in perirectal or pericolic fat with no evidence of lymph node tissue
- Found in primary lymphatic drainage area
- Other names
  - Peri-tumoral deposits, satellite nodules, discontinuous extramural extension, or malignant tumor foci

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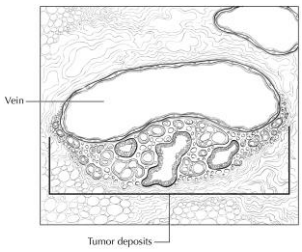
"Tumor Deposits"



Tumor deposit. Discrete foci of tumor found in the pericolic or perirectal fat or in adjacent mesentery (mesocolic fat) away from the leading edge of the tumor and showing no evidence of residual lymph node tissue but within the lymph drainage area of the primary carcinoma are considered to be peritumoral deposits or satellite nodules, and their number should be recorded in the site-specific Prognostic Markers on the staging form as Tumor Deposits (TD).

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"Tumor Deposits"

- Mesenteric
- Pericolonic
- Perirectal
- Subserosa
- All Regional Lymph Nodes Negative
- Deposits + LNs

- N1c = Tumor deposit(s) in the subserosa, mesentery, or nonperitonealized pericolic or perirectal tissues without regional nodal metastasis.

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Observed Survival by AJCC Stage

AJCC TNM Stage	5-year Observed Survival Rate
I	74%
IIA	67%
IIB	59%
IIC	37%
IIIA	73%*
IIIB	46%*
IIIC	28%
IV	6%

*In this study, survival was better for some stage III cancers than for some stage II cancers. The reasons for this are not clear.

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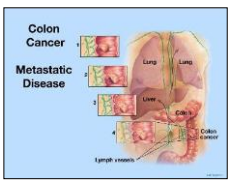
Metastatic Sites

- Lung
- Liver
- Lymph Nodes
- Seeding in peritoneum
- Seeding of small intestine
- Seeding of other segments of colon



www.colorectal-surgeon.com

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MPH Rules
Terms and Definitions

- 2014-2015 Updates
- New MPH Database
- Text Only Rules
- Stay Tuned

59

Colon Equivalent Terms, Definitions and Illustrations
C180–C189
(Excludes lymphoma and leukemia M9590-9989 and Kaposi sarcoma M9140)

Introduction
Note 1: Rectum and rectosigmoid are covered by The Other Sites rules.
Note 2: For the purpose of these rules, the words "exophytic" and "polypoid" are not synonymous with a polyp.

Use these rules only for cases with primary colon cancer.

Ninety-eight percent of colon cancers are adenocarcinoma. Ten to fifteen percent of these cases produce enough mucin to be categorized as mucinous/colloid.* Mixed histologies and specific types other than mucinous/colloid or signet ring cell are rare.

**ACS Clinical Oncology*

Equivalent or Equal Terms
Note: For the purpose of these rules, the words "exophytic" and "polypoid" are not synonymous with a polyp.

- Familial polyposis, familial adenomatous polyposis, (FAP)
- Intramucosal, lateral extension
- Invasion through colon wall, extension through colon wall, transmural
- Low grade neuroendocrine carcinoma, carcinoid
- Most invasive, most extensive
- Mucin producing, mucin secreting
- Mucinous, colloid
- Polyp, adenoma
- Serosa, visceral peritoneum
- Tumor, mass, lesion, neoplasm
- Type, subtype, predominantly, with features of, major, or with ____differentiation

Definitions

Adenocarcinoid (8265): A specific histology commonly found in the appendix.

Adenocarcinoma with mixed subtypes (8255): Rarely used for colon primaries (see introduction).

Adenocarcinoma, intestinal type (8144) is a form of stomach cancer. Do not use this code when the tumor arises in the colon.

Adenoma: A **benign** lesion composed of tubular or villous structures showing **intraepithelial neoplasia** (See definition of **intraepithelial neoplasia**).

Colon Terms and Definitions

Revised November 1, 2007

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Colon Terms and Definitions

Colon Equivalent Terms, Definitions and Illustrations
C180–C189
(Excludes lymphoma and leukemia M9590-9989 and Kaposi sarcoma M9140)

Composite carcinoid (8244): One tumor which contains both carcinoid and adenocarcinoma.

Familial polyposis, familial adenomatous polyposis (FAP), adenocarcinoma in: a condition characterized by the development of many adenomatous polyps, often seen in several members of the same family.

Frank adenocarcinoma: Adenocarcinoma arising from the colon wall (no evidence of a polyp)

In Situ: Noninvasive; intraepithelial; (adeno)carcinoma in a polyp or adenoma, noninvasive.

Intestinal type adenocarcinoma (8144) is a gastric histology term and is not listed in the WHO Histological Classification of Tumors of the Colon and Rectum.

Intraepithelial neoplasia, high grade may be either severe dysplasia or carcinoma in situ. Report cases of carcinoma in situ only.

Intraepithelial neoplasia, low grade is not a reportable condition. A person with intraepithelial neoplasia is at risk for developing invasive cancer.

Intramucosal tumors may be noninvasive or invasive. The term intramucosal may refer to the surface epithelium, the basement membrane, or the lamina propria.

Invasive tumor: A tumor that penetrates the basement membrane and invades the lamina propria.

Most invasive: The tumor with the greatest continuous extension through the wall of the colon. The layers of the colon wall in order of least to greatest extension:

- Mucosa (surface epithelium, lamina propria, basement membrane)
- Submucosa
- Muscularis propria
- Subserosa (pericolic fat, subserosal fat)
- Retroperitoneal fat (pericolic fat)
- Mesenteric fat (pericolic fat)
- Serosa (visceral peritoneum).

January 1, 2007

MPH Rules
Multiple Primary Rules

- 2014-2015 Updates
- New MPH Database
- Text Only Rules
- Stay Tuned

Multiple Primary Rules

Unknown number

- M1. Unknown whether single or multiple tumors = single

One tumor

- M2. Single tumor = single

Multiple tumors

- M3. Adenoca in adenomatous polyposis coli in one or multiple segments = single

Source: AFritz and Associates, LLC

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Multiple Primary Rules

Multiple tumors, continued

- M4. Different topography = multiple
- M5. Diagnosis dates > 1 year apart = multiple
- M6. Invasive after in situ > 60 days = multiple
- M7. Frank adenocarcinoma and malignant tumor in a polyp = single
- M8. Non-specific and specific histology = single
- M9. Multiple polyps (all malignant) = single
- M10. Histology different = multiple
- M11. All other scenarios = single

Source: AFritz and Associates, LLC

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New Primary or Recurrence?

- C18.9 historical colon with new primary
- Extent of previous resection
  - Polypectomy only?
  - Segmental resection?
  - Hemicolectomy?

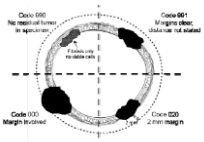

Figure 1-2-4. Circumferential Resection Margin.

- Circumferential resection margin
- What is "recurrence" in anastomosis?

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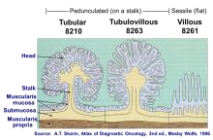
MPH Rules
Histology Coding Rules

- 2014-2015 Updates
- New MPH Database
- Text Only Rules
- Stay Tuned

Histopathology Review

- 95-98% of colon cancers - adenocarcinoma
  - Most originate in polyps or adenomas
  - But, only 10% of adenomas develop into cancers
- Types of adenoma
  - Tubular
  - Villous
  - Tubulo-villous



- Process takes up to 10 years
- De Novo Cancers – mucinous, signet ring
  - >10% of all colon ca are mucinous (>50% mucin production)
  - <1% of all colon ca are signet ring cell (>50% signet rings)

66

New Histologic Terms and Code

- Glandular intraepithelial neoplasia, high grade
- Glandular intraepithelial neoplasia, grade III
- Flat intraepithelial neoplasia, high grade

- 8148/2 – new ICD-O-3 Code for 2015

- All low grade intraepithelial neoplasia = /0
- All grade I or grade II intraepithelial = /0

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Mucinous and Signet Ring Cell

- Mucinous adenocarcinoma (8480)
  Code when
  - Final diagnosis is mucinous OR
  - Documentation says > 50% mucinous
    - May use microscopic section of path report
- Signet ring cell carcinoma (8490)
  Code when
  - Final diagnosis is signet ring cell OR
  - Documentation says > 50% signet ring cell
    - May use microscopic section of path report
  - "…with signet ring cells" ≠ signet ring cell CA

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Colorectal NETs and GISTs

- **NET – Neuroendocrine Tumor**
  - Carcinoid Tumor – 2015 ALL are reportable
  - Neuroendocrine Carcinoma
  - Mitotic Count Matters
  - Serum Chromogranin A (CgA)
  - Urinary 5-Hydroxyindoleacetic Acid (5-HIAA)
- **GIST – Gastrointestinal Stromal Tumor**
  - Tumor Size Matters
  - Mitotic Count Matters
  - KIT (CD117) Mutation
  - PDGFRA (CD140A) Mutation

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Histology Coding Rules

Single tumor

- H1. If no tissue, code physician's statement
- H2. If no primary tissue, code metastasis
- H3. Adenocarcinoma, NOS vs. intestinal type adenocarcinoma
- H4. 8210, 8261, or 8263 when carcinoma is in a polyp
- H5. Mucinous or signet ring cell > 50% of tumor
- H6. Adenocarcinoma, NOS when mucinous or signet ring cell < 50% of tumor
- H7. 8255 combined mucinous and signet ring

Source: AFritz and Associates, LLC

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Histology Coding Rules

Single tumor, continued

- H8. 8240 carcinoid when combined neuroendocrine and carcinoid
- H9. 8244 composite carcinoid when combined adenoca and carcinoid
- H10. 8245 adenocarcinoid when diagnosis is exactly "adenocarcinoid"
- H11. Single histology
- H12. Invasive if both invasive and in situ
- H13. Most specific term
- H14. Higher code

Source: AFritz and Associates, LLC

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Histology Coding Rules

Multiple tumors abstracted as a single primary

- H15. If no tissue, code physician's statement
- H16. If no primary tissue, code metastasis
- H17. 8220 Familial polyposis
- H18. 8263 - carcinoma is tubulo-villous adenoma
- H19. 8221 when < 100 polyps
- H20. Most invasive tumor
- H21. 8210, 8261, or 8263 - carcinoma in a polyp
- H22. Single histology
- H23. Most specific term
- H24. Higher code

Source: AFritz and Associates, LLC

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GENETIC AND BIO-MOLECULAR TUMOR MARKERS

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College of American Pathologists

cap

Template for Reporting Results of Biomarker Testing of Specimens From Patients With Carcinoma of the Colon and Rectum

Authors
Author
Institution

For the Members of the Cancer Biomarkers Working Group, College of American Pathologists

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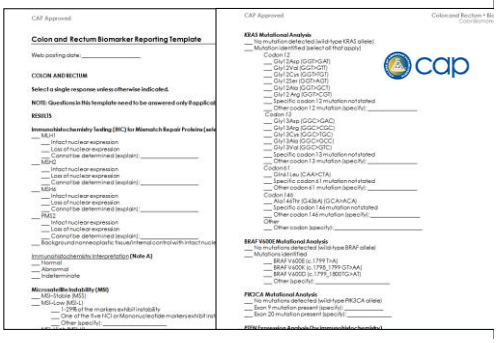
College of American Pathologists



CAP Approved

Colon and Rectum Biomarker Reporting Template

Web posting date: _____

COLON AND RECTUM

Select a single response unless otherwise indicated.

NOTE: Questions in this template need to be answered only if applicable

RESULTS

Immunohistochemistry Testing (IHC) for Mismatch Repair Proteins (select

___ MLH1
___ Intact nuclear expression
___ Loss of nuclear expression
___ Cannot be determined (explain): _____
___ MSH2
___ Intact nuclear expression
___ Loss of nuclear expression
___ Cannot be determined (explain): _____
___ MSH6
___ Intact nuclear expression
___ Loss of nuclear expression
___ Cannot be determined (explain): _____
___ PMS2
___ Intact nuclear expression
___ Loss of nuclear expression
___ Cannot be determined (explain): _____
___ Background nonneoplastic tissue/internal control with intact nuclei

Immunohistochemistry Interpretation (Note A)
___ Normal
___ Abnormal
___ Indeterminate

Microsatellite Instability (MSI)
___ MSI-Stable (MSS)
___ MSI-Low (MSI-L)
___ 1-29% of the markers exhibit instability
___ One of the five NCI panel nonmucinous/late markers exhibit inst
___ Other (specify): _____

CAP Approved

Colon and Rectum • Bi
Cancer Biomark

KRAS Mutational Analysis
___ No mutation detected (wild-type KRAS allele)
___ Mutation identified (select all that apply)
Codon 12
___ Gly12Asp (GGT>GAT)
___ Gly12Val (GGT>GTT)
___ Gly12Cys (GGT>TGT)
___ Gly12Ser (GGT>AGT)
___ Gly12Ala (GGT>GCT)
___ Gly12Arg (GGT>CGT)
___ Specific codon 12 mutation not stated
___ Other codon 12 mutation (specify): _____
Codon 13
___ Gly13Asp (GGC>GAC)
___ Gly13Arg (GGC>CGC)
___ Gly13Cys (GGC>TGC)
___ Gly13Ala (GGC>GCC)
___ Gly13Val (GGC>GTC)
___ Specific codon 13 mutation not stated
___ Other codon 13 mutation (specify): _____
Codon 61
___ Gln61Leu (CAA>CTA)
___ Specific codon 61 mutation not stated
___ Other codon 61 mutation (specify): _____
Codon 146
___ Ala146Thr (GCA>ACA)
___ Specific codon 146 mutation not stated
___ Other codon 146 mutation (specify): _____
Other
___ Other codon (specify): _____

BRAF V600E Mutational Analysis
___ No mutations detected (wild-type BRAF allele)
___ Mutations identified
___ BRAF V600E (c.1799 T>A)
___ BRAF V600K (c.1795_1799 GTAAA)
___ BRAF V600D (c.1799_1800TG>AT)
___ Other (specify): _____

PIK3CA Mutational Analysis
___ No mutations detected (wild-type PIK3CA allele)
___ Exon 9 mutation present (specify): _____
___ Exon 20 mutation present (specify): _____

PTEN Expression Analysis (by immunohistochemistry)

Microsatellite Instability

- What is MSI?
  - Genetic Test using PCR (polymerase chain reaction) looking for DNA Repair errors and HNPCC features
- What does positive result indicate?
  - MSI predicts response to chemotherapy
  - MSI may indicate patient's overall prognosis
  - MSI-H (highly positive MSI Test) may be related to development of HNPCC or Lynch Syndrome
- Who should get tested?
  - Patient under age 50 with colon cancer
  - Patient under age 50 with rectal cancer
  - Patient with other HNPCC-associated tumors
  - Patient with family history of colon/rectal cancer

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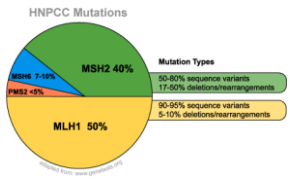
Mismatch Repair Proteins

- Can include one or more:
  - MLH1
  - MSH2
  - MSH6
  - PMS2
  - EPCAM



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KRAS Mutation

- What is KRAS wild-type?
- What is KRAS mutation?
- When is KRAS testing done?
- What does positive result mean?
- What about BRAF V600E Mutation?

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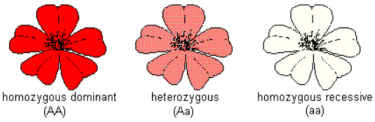
18q Loss of Heterozygosity



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Other Gene Testing

ESTIMATED RISK FOR COLON CANCER BY SYNDROME

Syndrome	Gene(s)	Risk
FAP (familial adenomatous polyposis)	*APC*	90% by age 45
Attenuated FAP	*APC*	69% by age 80
Lynch (HNPCC)	*MLH1, MSH2, MSH6 PMS2, EPCAM*	40% to 80% by age 75
MUTYH-associated polyposis	*MUTYH*	35% to 53%
Peutz-Jeghers	*STK11*	39% by age 70
Juvenile polyposis	*BMPR1A, SMAD4*	17% to 68% by age 60

http://www.ambrygen.com

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Other Gene Testing

- APC Mutation
- PIK3CA Mutation
- PTEN Mutation
- TFAP2E – fluorouracil resistance

- Multi-parameter Gene Expression Testing
- Protein Expression Assay
- DNA Microarrays

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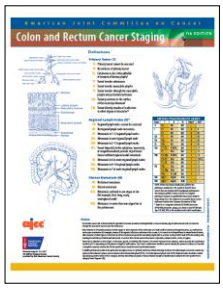
CANCER STAGING



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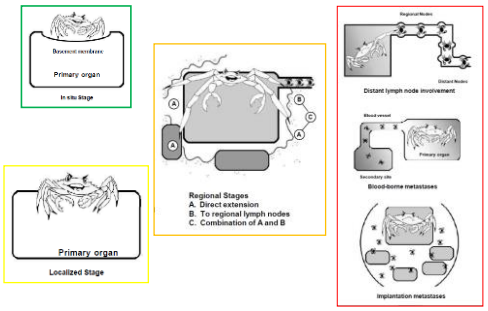
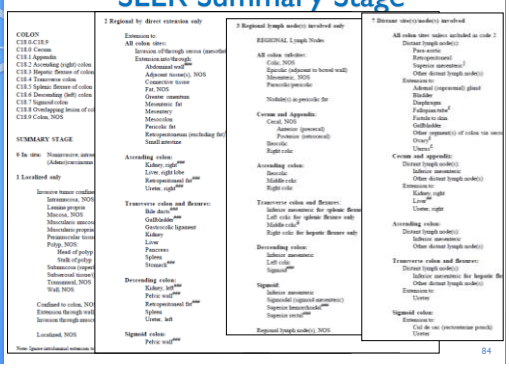
SEER Summary Stage



83

SEER Summary Stage



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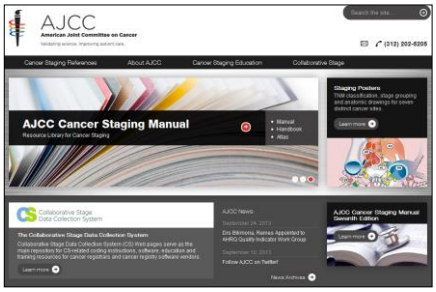
AJCC Cancer Staging - TNM



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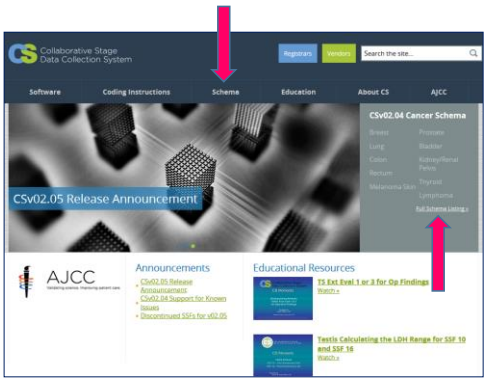
AJCC Cancer Staging - TNM

86



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CS Tumor Size

990	990	Microscopic focus or foci only; no size of focus given
	991	Described as "less than 1 cm"
	992	Described as "less than 2 cm," or "greater than 1 cm," or "between 1 cm and 2 cm"
	993	Described as "less than 3 cm," or "greater than 2 cm," or "between 2 cm and 3 cm"
	994	Described as "less than 4 cm," or "greater than 3 cm," or "between 3 cm and 4 cm"
	995	Described as "less than 5 cm," or "greater than 4 cm," or "between 4 cm and 5 cm"
998	998	Familial/multiple polyposis (M-8220/8221)

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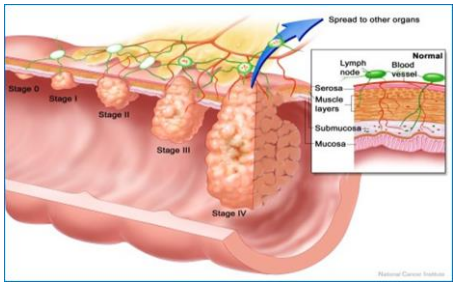
CS Tumor Size (polyp)

- Size of polyp is not size of tumor
- Tumor usually only fills part of a polyp
- Do not code size of polyp unless polyp is replaced by tumor
- Pathology report may not give size of tumor within the polyp – may be microscopic focus or may be measurable tumor in the polyp

90



Source: National Cancer Institute

91

CS Extension

In situ

In situ

Invasive

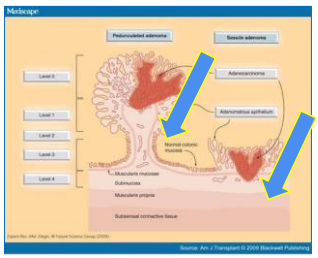
intramucosal

Code	Description	TNM 7 Map	TNM 6 Map	SS77 Map	SS2000 Map
000	In situ, intraepithelial, noninvasive	Tis	Tis	IS	IS
050	(Adeno)carcinoma, noninvasive, in a polyp or adenoma	Tis	Tis	IS	IS
100	Invasive tumor confined to mucosa, NOS, including intramucosal, NOS	Tis	Tis	L	L
110	Invades lamina propria, including lamina propria in the stalk of a polyp	Tis	Tis	L	L
120	Confined to and not through the muscularis mucosae, including muscularis mucosae in the stalk of a polyp.	Tis	Tis	L	L
130	Confined to head of polyp, NOS	T1	T1	L	L
140	Confined to stalk of polyp, NOS	T1	T1	L	L
150	Invasive tumor in polyp, NOS	T1	T1	L	L
160	Invades submucosa (superficial invasion), including submucosa in the head or stalk of a polyp	T1	T1	L	L
170	Stated as T1 with no other information on extension	T1	T1	L	L

92

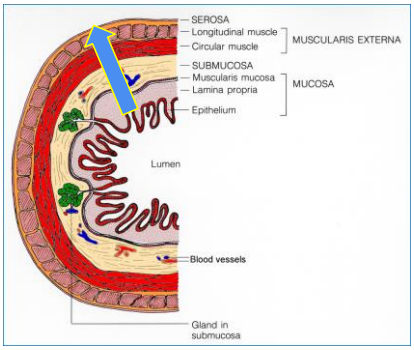
Intramucosal Colon Cancer

- In-situ
- Minimal invasive
- Invasive



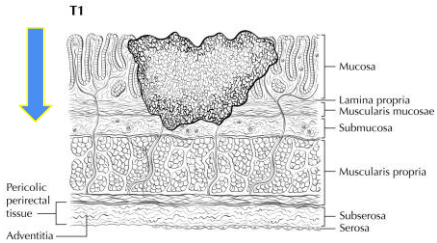
Source: American Journal of Transplant 2008

93



94

CS Extension



Tumor invades submucosa

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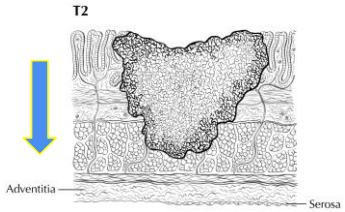
CS Extension

200	Muscularis propria invaded Stated as T2 with no other information on extension	T2	T2	L	L



Tumor invades muscularis propria

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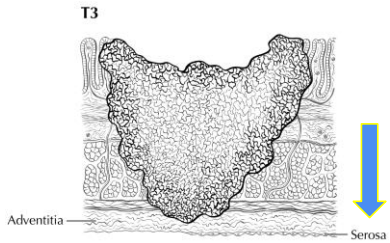
CS Extension

400	Extension through wall, NOS Invasion through muscularis propria or muscularis, NOS Non-peritonealized pericolic tissues invaded Perimuscular tissue invaded Subserosal tissue/(sub)serosal fat invaded Transmural, NOS Wall, NOS	T3	T3	L	L
450	Extension to: All colon sites: Adjacent tissue(s), NOS Connective tissue Mesenteric fat Mesentery Mesocolon Pericolic fat Ascending and descending colon Retroperitoneal fat Transverse colon and flexures Gastrocolic ligament Greater omentum	T3	T3	RE	RE

97

CS Extension



Tumor invades through the muscularis propria into peri-colorectal tissues

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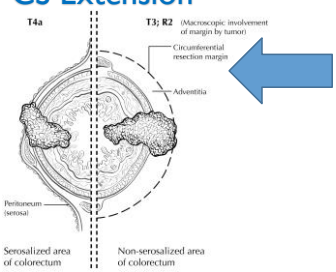
CS Extension



Circumferential resection margin. T3 R2 (right side) shows macroscopic involvement of the circumferential resection margin of a non-peritonealized surface of the colorectum by tumor with gross disease remaining after excision.
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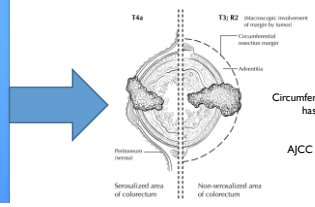
CS Extension

500	Invasion of/through serosa (mesothelium) (visceral peritoneum) Tumor penetrates to surface of visceral peritoneum	T4a	T4	RE	RE
550	500 + (450 + 458)	T4a	T4	RE	RE
560	Stated as T4a with no other information on extension	T4a	T4	RE	RE
565	Adherent to other organs or structures clinically with no microscopic examination Tumor found in adhesion(s) if microscopic examination performed	T4b	T4	RE	RE
570	Adherent to other organs or structures, NOS	T4b	T4	RE	RE



Circumferential resection margin. T4a (left side) has perforated the visceral peritoneum.

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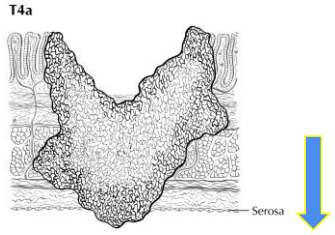
100

CS Extension

T4a



Tumor penetrates to the surface of the visceral peritoneum.

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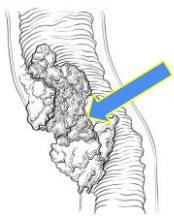
CS Extension

T4a



Tumor perforates visceral peritoneum
(shown with gross bowel perforation through the tumor)

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CS Extension

600	All colon sites: Small intestine Cecum: Greater omentum Ascending colon: Greater omentum Liver, right lobe Transverse colon and flexures: Gallbladder/bile ducts Kidney Liver Pancreas Spleen Stomach Descending colon: Greater omentum Pelvic wall Spleen Sigmoid colon: Greater omentum Pelvic wall	T4b	T4	RE	RE
650	OBSOLETE DATA RETAINED AND REVIEWED V0203 See codes 655 and 675 All colon sites: Abdominal wall Retroperitoneum (excluding fat)	T4b	T4	RE	RE
655	All colon sites: Abdominal wall All colon sites excluding sigmoid: Retroperitoneum (excluding fat)	T4b	T4	RE	RE
660	Ascending colon: Kidney Right ureter Descending colon: Left kidney Left ureter	T4b	T4	RE	RE
675	Sigmoid colon: Retroperitoneum (excluding fat)	T4b	T4	D	RE

103

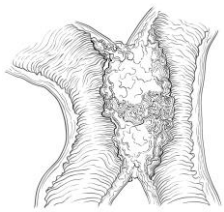
CS Extension

700	Cecum, ascending, descending and sigmoid colon: Fallopian tube Ovary Uterus	T4b	T4	D	D
750	All colon sites unless otherwise stated above: Adrenal (suprarenal) gland Bladder Diaphragm Fistula to skin Gallbladder Other segment(s) of colon via serosa	T4b	T4	D	D
800	Further contiguous extension: Cecum: Kidney Liver Ureter Transverse colon and flexures: Ovary Fallopian tube Uterus Ureter Sigmoid colon: Cul de sac (rectouterine pouch) Ureter	T4b	T4	D	D

104

CS Extension

T4b



Tumor directly invades or is adherent to other organs or structures, illustrated here with extension into an adjacent loop of small bowel

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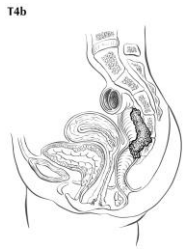
CS Extension



Tumor directly invades or is adherent to other organs or structures (such as the sacrum shown here)

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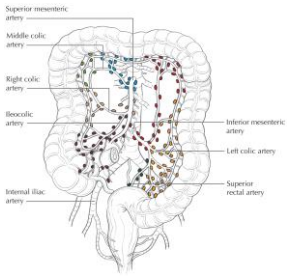
CS Lymph Nodes



The regional lymph nodes of the colon and rectum are colored by anatomic location.

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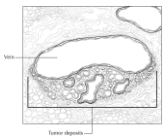
CS Lymph Nodes

050	T0 in the subserosa, mesentery, or nonperitonealized pericolic or perirectal tissues WITHOUT regional nodal metastasis Stated as N1c with no other information on regional lymph nodes	N1c	N1	RN	RN



110	Regional lymph nodes for all colon sites: Colic, NOS Episcolic (adjacent to bowel wall) Mesocolic, NOS Paracolic/pericolic	*	*	RN	RN

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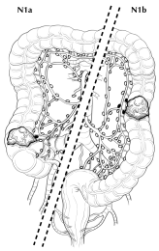
CS Lymph Nodes

210	Regional lymph nodes, for specific colon sites: Cecum: Cecal: Anterior (prececal), Posterior (retrocecal), NOS Ileocolic Right colic Ascending colon: Ileocolic Middle colic Right colic Transverse colon and flexures: Inferior mesenteric for splenic flexure only Left colic for splenic flexure only Middle colic Right colic for hepatic flexure only Descending colon: Inferior mesenteric Left colic Sigmoid colon: Inferior mesenteric Sigmoidal (sigmoid mesenteric) Superior hemorrhoidal Superior rectal	^	*	RN	RN
220	Regional lymph nodes for descending colon: Sigmoid	^	*	D	RN
300	Regional lymph nodes for all colon sites: Mesenteric, NOS Regional lymph node(s), NOS	^	*	RN	RN

109

CS Lymph Nodes



N1a is defined as metastasis in one regional lymph node.
N1b is defined as metastasis in 2 to 3 regional lymph nodes.

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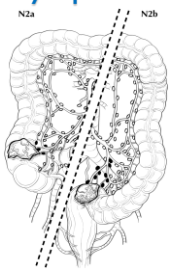
CS Lymph Nodes

400	OBSOLETE DATA CONVERTED V0203 See code 430 Stated as N1 pathologic	ERROR	ERROR	ERROR	ERROR
410	Stated as pathologic N1a with no other pathologic information on regional lymph nodes	N1a	N1	RN	RN
420	Stated as pathologic N1b with no other pathologic information on regional lymph nodes	N1b	N1	RN	RN
430	Stated as pathologic N1 [NOS] with no other pathologic information on regional lymph nodes	N1NOS	N1	RN	RN
450	OBSOLETE DATA CONVERTED V0203 See code 460 Stated as N2 pathologic	ERROR	ERROR	ERROR	ERROR
460	Stated as pathologic N2a with no other pathologic information on regional lymph nodes	N2a	N2	RN	RN
470	Stated as pathologic N2b with no other pathologic information on regional lymph nodes	N2b	N2	RN	RN
480	Stated as pathologic N2 [NOS] with no other pathologic information on regional lymph nodes	N2NOS	N2	RN	RN

111

CS Lymph Nodes



N2a is defined as metastasis in 4 to 6 regional lymph nodes.
N2b is defined as metastasis in seven or more regional lymph nodes.

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CS Lymph Nodes

N2b showing nodal masses in more than 7 regional lymph nodes.

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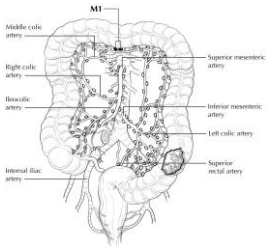
113

CS Mets



M1a disease is defined as distant metastasis confined to one organ or site (e.g., liver, lung, ovary, nonregional node).
In this case, involvement is outside the regional nodes of the primary tumor.

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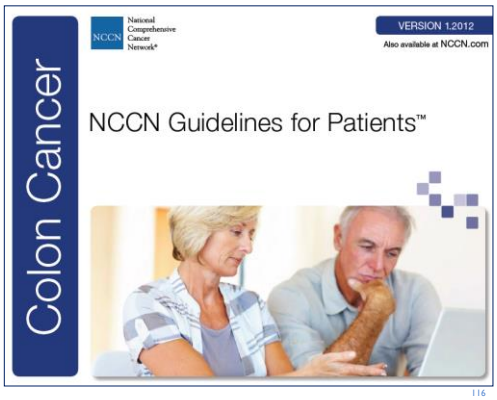
TREATMENT

115



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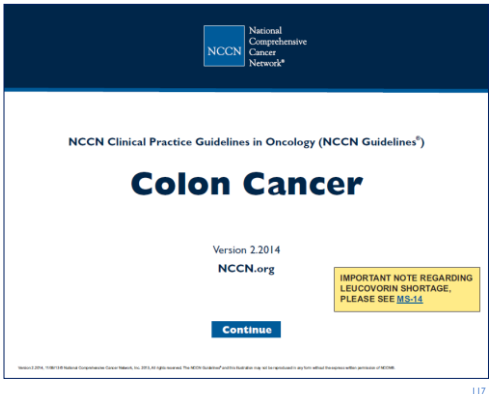

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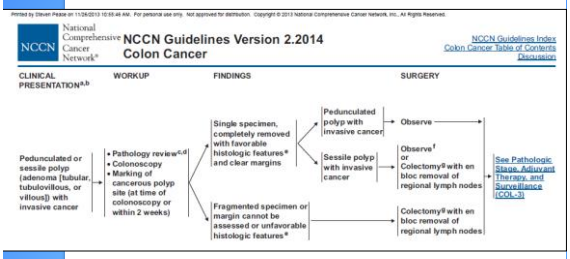

There is controversy as to whether malignant colorectal polyps with a sessile configuration can be successfully treated by endoscopic removal. The literature seems to indicate that endoscopically removed sessile malignant polyps have a significantly greater incidence of adverse outcomes (residual disease, recurrent disease, mortality, and hematogenous metastasis, but not lymph node metastasis) than do polypoid malignant polyps. However, when one closely looks at the data, configuration by itself is not a significant variable for adverse outcome, and endoscopically removed malignant sessile polyps with grade I or II histology, negative margins, and no lymphovascular invasion can be successfully treated with endoscopic polypectomy.[5-7]

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Treatment – Early Stage

Treatment	Non-Invasive Polyp Peduncular	Non-Invasive Polyp Sessile	KRAS Wild Type	T1, N0	T2, N0
NeoAdjv Chemo					
NeoAdjv XRT					
NeoAdjv Other					
Polypectomy	X	X			
Resection w/nodes				X	X
Capecitabine (KRAS Wild)			X		
Panitumumab (KRAS Wild)			X		

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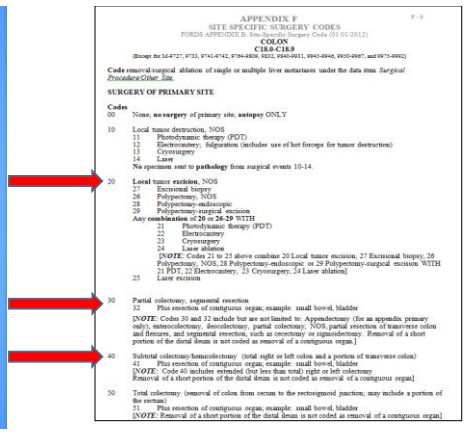


APPENDIX F
SITE SPECIFIC SURGERY CODES
FORDS APPENDIX B: Site-Specific Surgery Code (01/01/2012)
COLON
C18.0-C18.9
(Except the 32-9727, 9733, 9741-9742, 9764-9809, 9852, 9945-9951, 9945-9946, 9950-9967, and 9975-9992)

Code removal/surgical ablation of single or multiple liver metastases under the data item *Surgical Procedure/Other Site.*

SURGERY OF PRIMARY SITE

Codes
00 None, **no surgery** of primary site, **autopsy** ONLY

10 **Local** tumor destruction, NOS
11 Photodynamic therapy (PDT)
12 Electrocautery; fulguration (includes use of hot forceps for tumor destruction)
13 Cryosurgery
14 Laser
No specimen sent to **pathology** from surgical events 10-14.

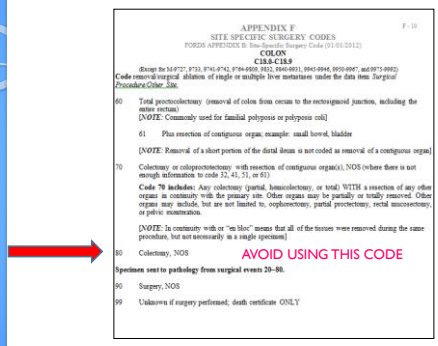
20 **Local tumor excision**, NOS
27 Excisional biopsy
26 Polypectomy, NOS
28 Polypectomy-endoscopic
29 Polypectomy-surgical excision
Any combination of 20 or 26-29 WITH
21 Photodynamic therapy (PDT)
22 Electrocautery
23 Cryosurgery
24 Laser ablation
[*NOTE*: Codes 21 to 25 above combine 20 Local tumor excision, 27 Excisional biopsy, 26 Polypectomy, NOS, 28 Polypectomy-endoscopic or 29 Polypectomy-surgical excision WITH 21 PDT, 22 Electrocautery, 23 Cryosurgery, 24 Laser ablation]
25 Laser excision

30 **Partial** colectomy, segmental resection
32 Plus resection of contiguous organ; example: small bowel, bladder
[*NOTE*: Codes 30 and 32 include but are not limited to: Appendectomy (for an appendix primary only), enterocolectomy, ileocolectomy, partial colectomy, NOS, partial resection of transverse colon and flexures, and segmental resection, such as cecectomy or sigmoidectomy. Removal of a short portion of the distal ileum is not coded as removal of a contiguous organ.]

40 Subtotal colectomy/hemicolectomy (total right or left colon and a portion of transverse colon)
41 Plus resection of contiguous organ; example: small bowel, bladder
[*NOTE*: Code 40 includes extended (but less than total) right or left colectomy
Removal of a short portion of the distal ileum is not coded as removal of a contiguous organ]

50 Total colectomy (removal of colon from cecum to the rectosigmoid junction; may include a portion of the rectum)
51 Plus resection of contiguous organ; example: small bowel, bladder
[*NOTE*: Removal of a short portion of the distal ileum is not coded as removal of a contiguous organ]

120



APPENDIX F

SITE SPECIFIC SURGERY CODES

FORDS APPENDIX B: Site-Specific Surgery Code (01/01/2012)

COLON

C18.0-C18.9

(Except the M-8727, 8733, 8741-8742, 8764-8800, 8832, 8840-8931, 8945-8946, 8950-8967, and 8971-8992)

Code removal/surgical ablation of single or multiple liver metastases under the data item *Surgical Procedure/Other Site*

60 Total proctocolectomy (removal of colon from cecum to the rectosigmoid junction, including the entire rectum)
[*NOTE:* Commonly used for familial polyposis or polyposis coli]

61 Plus resection of contiguous organ; example: small bowel, bladder

[*NOTE:* Removal of a short portion of the distal ileum is not coded as removal of a contiguous organ]

70 Colectomy or coloproctectomy with resection of contiguous organ(s), NOS (where there is not enough information to code 32, 41, 51, or 61)

Code 70 includes: Any colectomy (partial, hemicolectomy, or total) WITH a resection of any other organs in continuity with the primary site. Other organs may be partially or totally removed. Other organs may include, but are not limited to, oophorectomy, partial proctectomy, rectal mucosectomy, or pelvic exenteration.

[*NOTE:* In continuity with or "en bloc" means that all of the tissues were removed during the same procedure, but not necessarily in a single specimen]

80 Colectomy, NOS

AVOID USING THIS CODE

Specimen sent to pathology from surgical events 20–80:

90 Surgery, NOS

99 Unknown if surgery performed; death certificate ONLY

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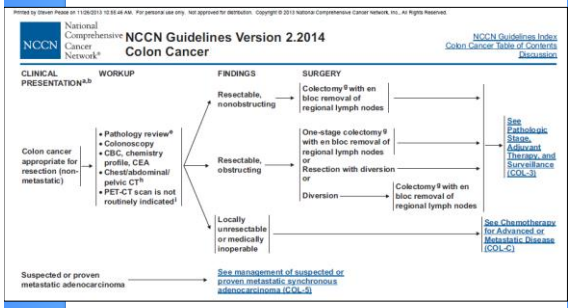

NCCN National Comprehensive Cancer Network®

NCCN Guidelines Version 2.2014
Colon Cancer

NCCN Guidelines Index
Colon Cancer Table of Contents
Discussion

CLINICAL PRESENTATION[a,b] | WORKUP | FINDINGS | SURGERY

Colon cancer appropriate for resection (non-metastatic)

WORKUP:
- Pathology review[a]
- Colonoscopy
- CBC, chemistry profile, CEA
- Chest/abdominal/pelvic CT[h]
- PET-CT scan is not routinely indicated[i]

FINDINGS / SURGERY:
- Resectable, nonobstructing → Colectomy[g] with en bloc removal of regional lymph nodes
- Resectable, obstructing → One-stage colectomy[g] with en bloc removal of regional lymph nodes or Resection with diversion or Diversion → Colectomy[g] with en bloc removal of regional lymph nodes
- Locally unresectable or medically inoperable → See Chemotherapy for Advanced or Metastatic Disease (COL-C)

→ See Pathologic Stage, Adjuvant Therapy, and Surveillance (COL-3)

Suspected or proven metastatic adenocarcinoma → See management of suspected or proven metastatic synchronous adenocarcinoma (COL-5)

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Chemotherapy and BRM

- Chemotherapy alone, or in combination with radiation, is given before or after surgery to most patients whose cancer has penetrated the bowel wall deeply or spread to lymph nodes
- Adjuvant chemotherapy (anticancer drugs in addition to surgery or radiation) for colon cancer in otherwise healthy patients 70 years of age and older is equally effective as in younger patients; toxicity in older patients can be limited if certain drugs (e.g., oxaliplatin) are avoided

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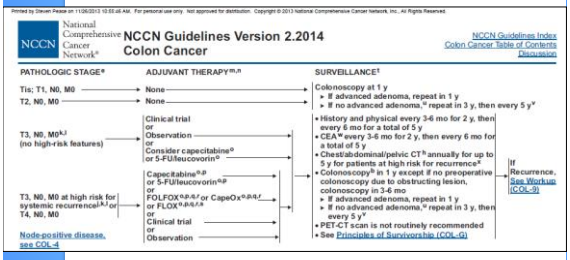
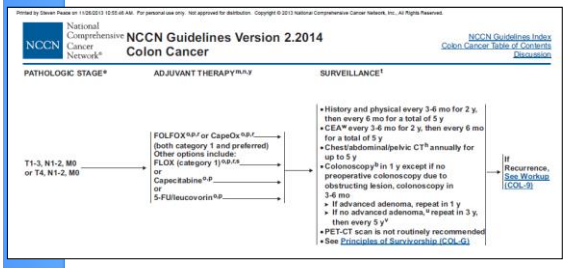


124



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Colorectal Chemo Regimens

CHEMOTHERAPY FOR ADVANCED OR METASTATIC DISEASE - CHEMOTHERAPY REGIMENS (PAGE 6 of 9)

FOLFOX
mFOLFOX 6
Oxaliplatin 85 mg/m^2 IV over 2 hours, day 1
Leucovorin* 400 mg/m^2 IV over 2 hours, day 1
5-FU 400 mg/m^2 IV bolus on day 1, then 1200 mg/m^2/day x 2 days (total 2400 mg/m^2 over 46-48 hours)† IV continuous infusion
Repeat every 2 weeks[1,2,3]

mFOLFOX6 + Bevacizumab[2,4,¶]
Oxaliplatin 85 mg/m^2 IV over 2 hours, day 1
Leucovorin* 400 mg/m^2 IV over 2 hours, day 1
5-FU 400 mg/m^2 IV bolus on day 1, then 1200 mg/m^2/day x 2 days (total 2400 mg/m^2 over 46-48 hours)† IV continuous infusion
Bevacizumab 5 mg/kg IV, day 1
Repeat every 2 weeks

mFOLFOX6 + Panitumumab[2,5]
Oxaliplatin 85 mg/m^2 IV over 2 hours, day 1
Leucovorin* 400 mg/m^2 IV over 2 hours, day 1
5-FU 400 mg/m^2 IV bolus on day 1, then 1200 mg/m^2/day x 2 days (total 2400 mg/m^2 over 46-48 hours)† IV continuous infusion
Panitumumab 6 mg/kg IV over 60 minutes, day 1
Repeat every 2 weeks

CapeOX[1,6]
Oxaliplatin 130 mg/m^2 IV over 2 hours, day 1
Capecitabine 850-1000‡ mg/m^2 twice daily PO for 14 days
Repeat every 3 weeks

CapeOX + Bevacizumab[1,6,7¶]
Oxaliplatin 130 mg/m^2 IV over 2 hours, day 1
Capecitabine 850-1000‡ mg/m^2 PO twice daily for 14 days
Bevacizumab 7.5 mg/kg IV, day 1
Repeat every 3 weeks

IMPORTANT NOTE REGARDING LEUCOVORIN SHORTAGE, PLEASE SEE MS-14

126

Oral Chemotherapy

Capecitabine
Brand Name: Xeloda®

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Treatment - Advanced Stage

Treatment	T4, N0	N1-2-any T	Unresectable	M1-any T,N	Advanced Disease
NeoAdjv Chemo	X		X		
NeoAdjv XRT	X		X		
NeoAdjv Other					
Resection w/nodes	X	X			
Resection liver/lung mets			X	X	X
KRAS Test	X	X	X	X	X
MSI Test	X	X	X	X	X
LOH Test	X	X	X	X	X
FOLFOX6 Chemo	X	X	X	X	X
FOLFOX6 Variant					
FLOX Chemo		X	X	X	X
CapeOX Chemo		X	X	X	X
Capecitabine (KRAS Wild)	consider	consider	consider	consider	consider
Panitumumab (KRAS Wild)	consider	consider	consider	consider	consider
Bevacizumab			consider	consider	consider
5FU+Leucovorin	X	X			
XRT Beam 1	consider		consider	consider	consider
XRT Other	consider		consider	consider	consider
CLINICAL TRIAL REGIMEN	consider		consider	consider	consider

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Chemotherapy and BRM

- Several targeted therapies are approved by the FDA to treat metastatic colorectal cancer:
  - Bevacizumab (Avastin) and zivaflibercept (Zaltrap) block the growth of blood vessels to the tumor,
  - Cetuximab (Erbitux) and panitumumab (Vectibix) block the effects of hormone-like factors that promote cancer growth.

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Chemotherapy and BRM

- Stivarga® (regorafenib) is a oral multi-kinase inhibitor that blocks several enzymes that promote cancer growth.
- Rx advanced colorectal CA

http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm321271.htm

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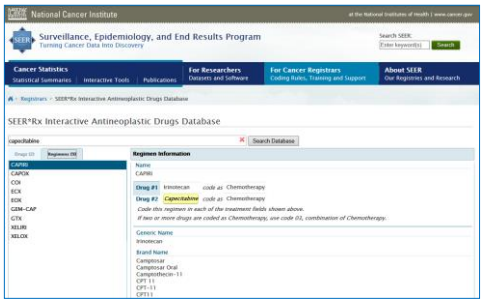
Use SEER*Rx to Code Agents



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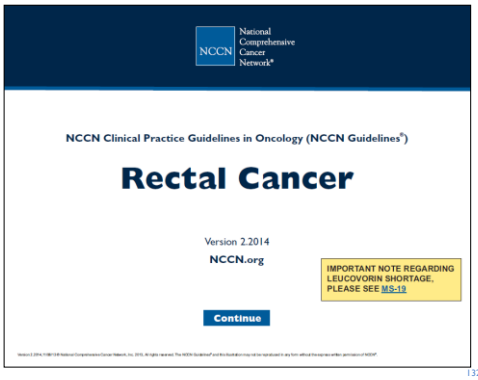

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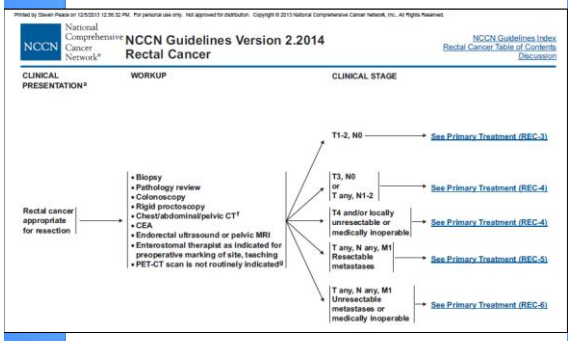

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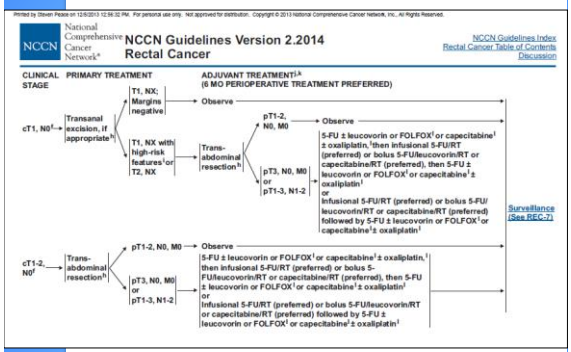

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Neoadjuvant Therapy

- Colon – seldom used except for locally advanced tumors to shrink size of primary tumor mass or to reduce size of metastasis that are deemed resectable.
- Rectum – used for all stages > T2
- Chemo plus or minus XRT to tumor

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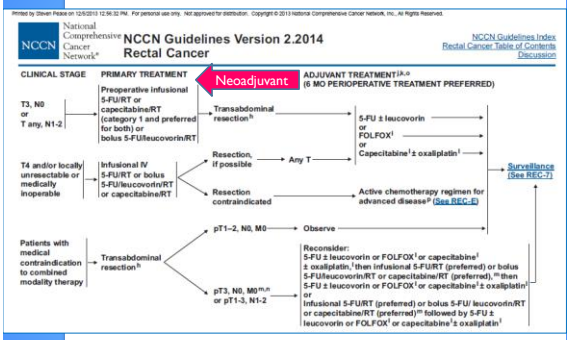

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Text Documentation

DATA ITEMS REQUIRING COMPLETE TEXT DOCUMENTATION	
Date of DX	RX Summ – Surg Prim Site
Seq No	RX Summ – Scope Reg LN Surgery
Sex	RX Summ – Surg Oth Reg/Distant
Primary Site	RX Date – Surgery
Subsite	RX Summ – Radiation
Laterality	Rad Rx Modality
Histologic Type	RX Date – Radiation
Behavior Code	RX Summ – Chemo
Grade	RX Date – Chemo
	RX Summ – Hormone
CS Tumor Size	RX Date – Hormone
CS Ext	RX Summ – BRM/Immunotherapy
CS Tumor Ext/Eval	RX Date – BRM/Immunotherapy
Regional Nodes Positive	RX Summ – Transplant/Endocrine
Regional Nodes Examined	RX Date – Transplant/Endocrine
CS LN	RX Summ – Other
CS LN Eval	RX Date - Other
CS Mets	
CS Mets Eval	Any Unusual Case Characteristics
All FCDS Req'd SSFs	Any Pertinent Patient/Family History

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References

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  - Colorectal Cancer Facts and Figures 2011-2013
- College of American Pathologists
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  - AJCC Cancer Staging Atlas, 2nd edition
  - AJCC Cancer Staging Manual, 7th edition
  - AJCC Cancer Staging Handbook, 7th edition
  - Collaborative Stage Data Collection System
- SEER Summary Staging Manual 2000
- www.medicinenet.com/colon_cancer
- CDC Vital Signs, November 2013
- USPSTF www.uspreventiveservicestaskforce
- NCCN Treatment Guidelines – www.nccn.org

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Questions