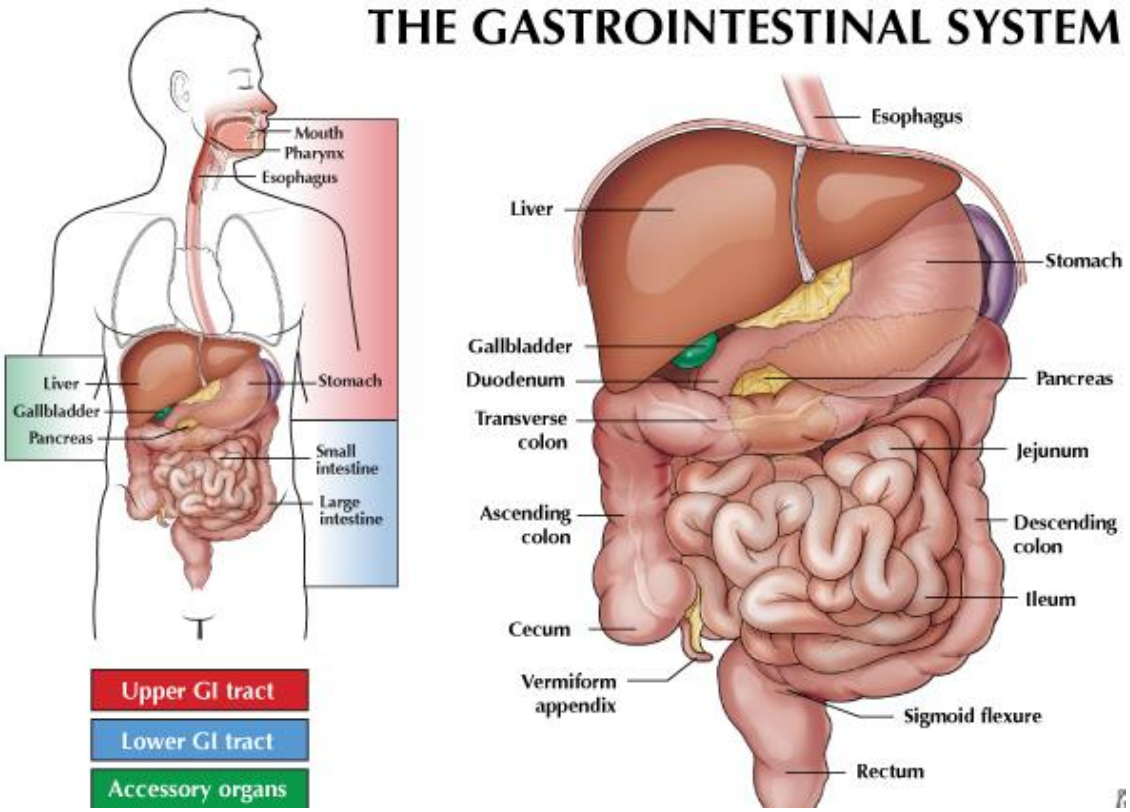
COLORECTAL CANCER

Colorectal cancer is cancer affecting the cecum, rectum and the colon.



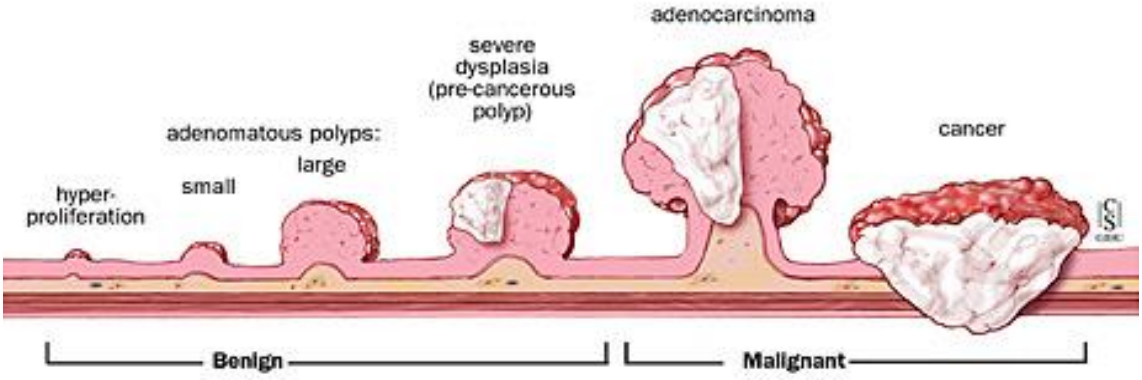
Colorectal cancer is the second cancer killer, yet it is one of the most preventable types of cancer. Colorectal cancer is often curable when detected early.

Lifetime risk of colorectal cancer is roughly equal in men and women.

The risk of developing colorectal cancer increases with age.

Anatomy of Colorectal Cancer Progression from Polyp to Cancer
Most colorectal cancers develop from polyps, which are abnormal growths in the colon. If polyps grow unnoticed and are not removed, they may become cancerous.

The development of more than 75-90 percent of colorectal cancer can be avoided through early detection and removal of pre-cancerous polyps.



Risk Factors

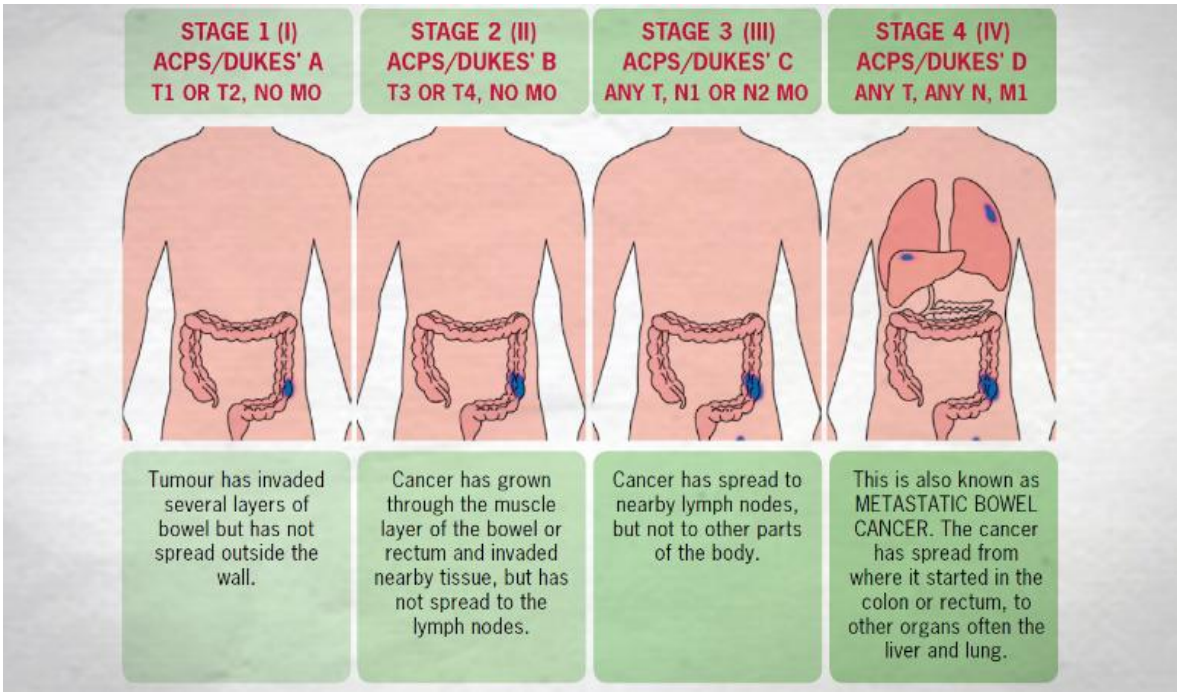
- Personal history of colorectal cancer or colorectal polyps
- A strong family history of the disease
- Inherited forms of colorectal polyps or cancer e.g. Familial Adenomatous Polyposis (FAP)
- Previous Colorectal, ovarian, endometrial or breast cancer
- Predisposing chronic digestive condition such as inflammatory bowel disease (Crohn's disease or ulcerative colitis)
- Age > 50
- Poor diet (increased fat, red meat and reduced fibre)
- Smoking
- Diabetes mellitus
- Exposure to radiation

Prevention

- Increase fibre in the diet
- Decreasing intake of animal fat and red meat
- Avoiding smoking and drinking alcohol.
- Exercise and maintaining a healthy BMI
- Secondary prevention with screening
- Increase intake of fruits and green leafy vegetables

Staging
Stage 0 or carcinoma in situ (CIS)

The cancer cells in the inner bowel lining, but all the cancer cells are contained within this lining. So there is very little risk of any cancer cells having spread.



Grading of bowel cancer

The grade tells how normal or abnormal the cancer cells are when viewed under a microscope. It is considered when deciding the management modality. As a normal cell grows and matures, it becomes more specialized for its role and place in the body. This is called differentiation. Bowel cancer is graded as follows:

- Grade 1 (low grade) – the cancer cells are well differentiated, which means they look quite similar to normal cells
- Grade 2 (moderate grade) – the cancer cells are moderately differentiated, which means the cells look more abnormal
- Grade 3 (high grade) – the cancer cells are poorly differentiated, which means they look very abnormal

The grade gives doctors an idea of how the cancer is likely to behave. A low grade cancer is likely to be slower growing and less likely to spread than high grade cancers.

Symptoms

Often ***asymptomatic;*** this is why screening for colorectal cancer is so important. When symptoms occur, they include:-

- New onset of abdominal pain
- Bleeding from the rectum
- Blood in or on the stool
- A change in stool caliber or shape
- A change in typical bowel habits, constipation, diarrhea
- Weakness, anemia, weight loss, palpable mass, obstruction
- Jaundice

Metastasis
Direct extension, lymphatic, hematogenous (liver most common, lung, rarely bone and brain)
Peritoneal seeding: ovary
Intraluminal

SCREENING
Digital Rectal Exam (**DRE)**; most common exam
Fecal Occult Blood Test (FOBT)

- Proper test requires 3 samples of stool
- It is recommended annually by World Health Organization.
- Results in 16- 33% reduction in mortality in Randomized Controlled Trials (RCTs)

Sigmoidoscopy

- Can identify 30- 60 % of lesions
- Sigmoidoscopy + FOBT misses 24 % of colonic neoplasm

Colonoscopy

- Colonoscopy is the preferred method (gold standard) of screening for colorectal cancer because it enables the physician to look directly at the entire colon.
- It is recommended starting the age of 50 and 45 for African Americans as a preventive measure
- Detects >90 % polyps and cancer
- It is the only test that allows for removal or biopsy of lesions/growths during procedure
- Can identify proximal lesions missed by sigmoidoscopy
- Used as follow-up to other tests if lesions are found
- Disadvantages; expensive, not always available, poor compliance, requires sedation, risk of perforation (0.2%)

Virtual Colonoscopy

- Noninvasive, no complications
- 91% sensitive, 17 %false positive rate
- Limitations: does not allow for therapy, variable results, cost, no screening/longitudinal studies

Air contrast Barium Enema:
50% sensitive for large (>1 cm) adenomas, 39% for polyps
Carcinogenic Embryonic Antigen (CEA)
Used to monitor for recurrence at 3 months
Fecal Immunochemical Test (FIT)

- Annual FIT is the preferred cancer detection test
- It detects hidden blood in the stool. If results are positive, a colonoscopy is performed

Stool DNA

Investigations
CXR and abdominal CT scan/ultrasound
Bone Scan/ Ct head is recommended only if lesions are suspected
Laboratory: Complete Blood Count, urinalysis, liver function tests, Carcinogenic Embryonic Antigen (before surgery)

Treatment

Surgery

Adjuvant Therapy

- Radiotherapy
- Chemotherapy
- Biological therapy