

# Colon Cancer

The colon is a part of the large intestine and measures 1.2 meters. The glands lining the inner wall of the colon are the sites for most abnormal cell behavior such as uncontrolled cell growth, which results in polyps (non-cancerous growths) and later on in adenocarcinomas or tumors. The tumors deprive the normal surrounding tissues of nutrients and oxygen and can spread to the lymph nodes in the area and to other organs.

Any signs of rectal bleeding associated or not with paleness and fatigue warrant a visit to a medical professional. In certain cases, the bleeding is not visible but symptoms of iron deficiency would prompt a stool analysis for blood traces. The next stage of symptoms is related to a tumor that is large enough to partially or completely block the colon and complaints range from abdominal and/or rectal pain to nausea and vomiting.

## Risk Factors

**Age:** Colorectal cancer most commonly occurs in people over the age of 50 and the chance of developing colorectal cancer increases as age increases. Approximately 90% of people who develop colorectal cancer cases are older than 50 years. Yet, colorectal cancer can also occur at younger age.

**Diet:** A diet high in fat, calorie, and protein, especially fat from animal sources, can increase the risk for colorectal cancer. Low-fiber diets have also been associated with increased risk.

**Diabetes:** Diabetics are up to 40% more likely to develop colorectal cancer than people who do not have diabetes.

**Obesity:** Overweight by itself can be a risk factor for colorectal cancer and the risk of dying from colorectal cancer is higher in obese individuals.

**Lack of exercise:** Low physical activity is a known risk factor for colorectal cancer.

**Smoking and alcohol:** Smoking and alcohol drinking contribute in increasing the risk of having colorectal cancer.

**Certain medical conditions:** Long-term inflammation caused by inflammatory bowel disorders, including ulcerative colitis and Crohn's disease, may increase the risk of colorectal cancer. Large intestinal polyps, even after removal, can also increase the chances of developing colon cancer.

**Genetic:** About 5% of people who develop colorectal cancer have an inherited genetic susceptibility to the disease. The main two inherited syndromes associated with colorectal cancers are familial adenomatous polyposis (FAP) and hereditary non-polyposis colorectal cancer (HNPCC).

## Diagnosis and Management

Tests, including a digital rectal exam, followed by a colonoscopy, X-ray and CT-scans should be run to determine the underlying cause of the symptoms. If a colon cancer is suspected, laboratory tests including blood tests and urine analysis will be run. A biopsy may be needed to confirm the diagnosis.

Colon cancer is classified in four stages according to how far the cancer has spread in the colon layers, muscles and lymph nodes. If the cancer has not reached the lymph nodes, the curative treatment consists of surgically removing tumors

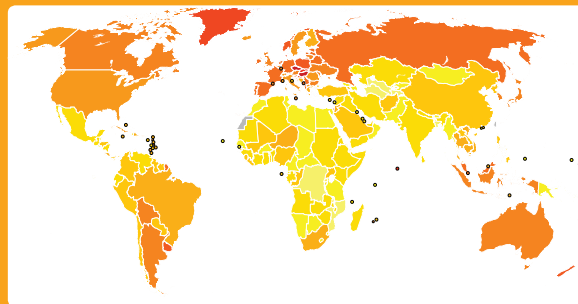
and surrounding tissue. If the lymph nodes are hit, chemotherapy will follow the surgery and radiation may also be used.

### Colon Cancer in Arab Populations

There have been several studies that have shown a decreased incidence of colon cancer among Arab populations when compared to other World populations. Palestinian Arabs have a much lower incidence of colorectal cancer compared to Jews in the Occupied Territories. One explanation for this observation has been the influence of increased amounts of fruits and vegetables in the Arabic diet. Both males and females show almost the same incidence rate. In spite of the low overall incidence of colon cancer in these countries, however, in several Gulf countries, such as Oman, Qatar, and Saudi Arabia, the incidence of colorectal cancer in people under 40 years of age has been found to be relatively high. A similar trend is also seen in Sudan, with an interesting addition of increased frequency of colorectal cancer being observed in Northern than Southern Sudan.

Familial aggregation of colon cancer has been reported in only some of the Arab countries. In Kuwait, a study identified the same founder mutation in two separate consanguineous families affected by HNPCC. Interestingly, some researchers have noticed that Egyptian patients with colon cancer have higher than normal levels of pesticides in their blood, possibly sourced from the use of these pesticides in agricultural practices.

Age-standardized death rates from colon and rectum cancers by country (per 100,000 inhabitants) according to WHO statistics for year 2004. Darker areas indicate higher rates.



Arab Country	Rate	World Rank
Jordan	11.7	48
Saudi Arabia	8.3	69
Iraq	7.5	74
Qatar	7.3	75
United Arab Emirates	6.8	80
Algeria	6.7	81
Yemen	6.6	82
Kuwait	6.6	82
Somalia	6.5	83
Mauritania	6.4	84
Syria	6.3	85
Sudan	6.3	85
Bahrain	6.0	87
Eritrea	5.2	93
Morocco	4.5	97
Oman	4.4	98
Tunisia	4.3	99