

STAGING OF COLORECTAL CANCER

Staging describes the extent of the cancer based on:

1. how many layers of the bowel wall are affected,
2. whether lymph nodes are involved, and
3. if there is spread to other organs.

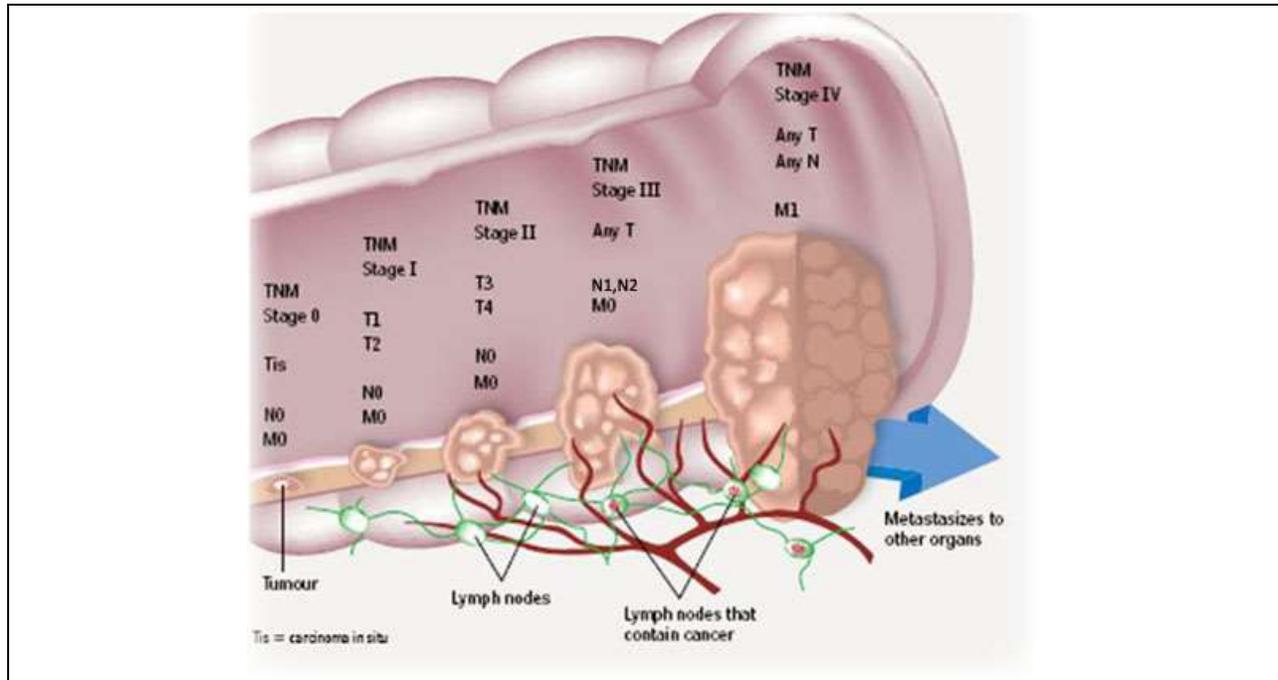
For colorectal cancer, staging often can't be completed until after surgery to remove the primary tumour along with surrounding tissue (containing lymph nodes), and possibly lesions found on other organs. A pathologist studies the surgical specimen(s) to determine the stage. The most frequently used, and most precise staging system for colorectal cancer, is the **TNM System**. TNM stands for "Tumour Nodes Metastases" and the system describes the extent of each using numbers; the higher the number, the more of the element that is affected:

TNM Classification			
Tis	The cancer is confined to innermost layer of the colon or rectum	N0	There is no spread to lymph nodes
T1	The cancer has grown through the first few layers of the colon or rectum	N1	Cancer is found in 1-3 lymph nodes
T2	The cancer has grown into the thick muscular layer of the colon or rectum	N2	Cancer is found in four or more lymph nodes
T3	The cancer has grown through the entire colon or rectum wall	M0	There is no spread of cancer to distant organ(s)
T4	The cancer has grown through the entire colon or rectum wall and into nearby tissue or organs	M1	Cancer is found in distant organ(s)

After each element has been determined, they are combined to form an overall stage of the cancer in roman numerals, the higher the number, the more advanced the cancer. This is generally how the cancer is referred to between doctor and patient:

- **0** - The cancer is confined to the innermost layer of the colon or rectum. It has not yet invaded the bowel wall. Is also referred to as **high grade dysplasia**
- **I** - The cancer has penetrated some or several layers of the colon or rectum wall.
- **II** - The cancer has penetrated the entire wall of the colon or rectum and may extend into nearby tissue(s).
- **III** - The cancer has spread to the lymph nodes.
- **IV** - The cancer has spread to distant organs, usually the liver or lungs.

Image Illustrating the Four Stages of Colorectal Cancer



Tumor size does not appear to be important in terms of outcome. The aggressiveness of colorectal cancer is based entirely upon its ability to grow and invade the colonic wall, lymphatic system, and blood vessels, as mentioned above. Sometimes, your doctor may not be able to determine the stage or grade of your cancer until after surgery, when the tumour and surrounding tissue have been examined by a pathologist.

Colorectal Cancer Grade:

Another factor that can affect your treatment and your outlook is the grade of your cancer. The grade describes how closely the cancer looks like normal tissue when seen under a microscope.

The scale used for grading colorectal cancers is from 1 to 4.

- **Grade 1 (G1)** means the cancer looks much like normal colorectal tissue.
- **Grade 4 (G4)** means the cancer looks very abnormal.
- **Grades 2 and 3 (G2 and G3)** fall somewhere in between.

The grade is often simplified as either **low grade** (G1 or G2) or **high grade** (G3 or G4). Low-grade cancers tend to grow and spread more slowly than high-grade cancers. Most of the



time, the outlook is better for low-grade cancers than it is for high-grade cancers of the same stage. Doctors sometimes use the grade to help decide if a patient should get additional (adjuvant) treatment with chemotherapy after surgery to help secure best outcomes for their patients.

Sources:

<http://www.cancer.ca/en/cancer-information/cancer-type/colorectal/staging/?region=on>

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<https://www.cancer.org/cancer/colon-rectal-cancer/detection-diagnosis-staging/staged.html>

<https://www.cancer.net/cancer-types/colorectal-cancer/stages>