Colorectal Cancer - Staging

This section has been reviewed and approved by the Cancer.Net Editorial Board [1], September / 2012

Staging with Illustrations

Staging is a way of describing where the cancer is located, if or where it has spread, and whether it is affecting the functions of other organs in the body. Doctors use diagnostic tests to determine the cancer's stage, so staging may not be complete until all of the tests are finished. Knowing the stage helps the doctor to decide what kind of treatment is best and can help predict a patient's prognosis (chance of recovery). There are different stage descriptions for different types of cancer.

One tool that doctors use to describe the stage is the TNM system. This system judges three factors: the tumor itself, the lymph nodes around the tumor, and if the tumor has spread to other parts of the body. The results are combined to determine the stage of cancer for each person. There are five stages: stage 0 (zero) and stages I through IV (one through four). The stage provides a common way of describing the cancer, so doctors can work together to plan the best treatments.

TNM is an abbreviation for tumor (T), node (N), and metastasis (M). Doctors look at these three factors to determine the stage of cancer:

- For colorectal cancer, ?T? describes how deeply the primary (first) tumor has grown into the bowel lining. **(Tumor, T)**
- Has the tumor spread to the lymph nodes? **(Node, N)**
- Has the cancer metastasized to other parts of the body? **(Metastasis, M)**

Tumor. Using the TNM system, the "T" plus a letter or number (0 to 4) is used to describe how deeply the primary tumor has grown into the bowel lining. Some stages are also divided into smaller groups that help describe the tumor in even more detail. Specific tumor information is listed below.

TX: The primary tumor cannot be evaluated.

T0: There is no evidence of cancer in the colon or rectum.

Tis: Refers to carcinoma in situ (also called cancer in situ). Cancer cells are found only in the epithelium or lamina propria (the top layers lining the inside of the colon or rectum).

T1: The tumor has grown into the submucosa (the layer of tissue underneath the mucosa or lining of the colon).

T2: The tumor has grown into the muscularis propria (a deeper, thick layer of muscle that contracts to force the contents of the intestines along).

T3: The tumor has grown through the muscularis propria and into the subserosa (a thin layer of connective tissue beneath the outer layer of some parts of the large intestine) or into tissues surrounding the colon or rectum.

T4a: The tumor has grown into the surface of the visceral peritoneum (through all layers of the colon).

T4b: The tumor directly has grown into or has attached to other organs or structures.

Node. The "N" in the TNM system stands for lymph nodes. The lymph nodes are tiny, bean-shaped organs that are located throughout the body that help the body fight infections as part of the immune system. Lymph nodes near the colon and rectum are called regional lymph nodes. All others are distant lymph nodes (lymph nodes found in other parts of the body).

NX: The regional lymph nodes cannot be evaluated.

N0: There is no spread to regional lymph nodes.

N1a: There are tumor cells found in one regional lymph node.

N1b: There are tumor cells found in two to three regional lymph nodes.

N1c: There are nodules made up of tumor cells found in the structures near the colon that do not appear to be lymph nodes.

N2a: There are tumor cells found in four to six regional lymph nodes.

N2b: There are tumor cells found in seven or more regional lymph nodes.

Distant metastasis. The "M" in the TNM system describes cancer that has spread to other parts of the body (such as the liver or lungs).

MX: Distant metastasis cannot be evaluated.

M0: The disease has not spread to a distant part of the body.

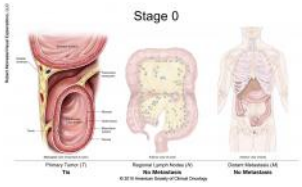
M1a: The cancer has spread to one other part of the body beyond the colon or rectum.

M1b: The cancer has spread to more than one part of the body other than the colon or rectum.

Cancer stage grouping

Doctors assign the stage of the cancer by combining the T, N, and M classifications.

Stage 0: This is called cancer in situ. The cancer cells are only in the mucosa (the inner lining) of the colon or rectum.



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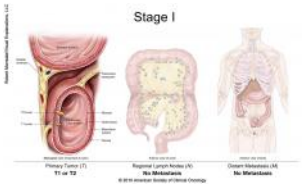
Stage I: The cancer has grown through the mucosa and has invaded the muscular layer of the colon or rectum. It has not spread into nearby tissue or lymph nodes (T1 or T2, N0, M0).



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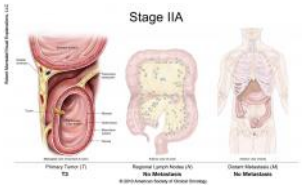
Stage IIA: The cancer has grown through the wall of the colon or rectum and has not spread to nearby tissue or to the nearby lymph nodes (T3, N0, M0).



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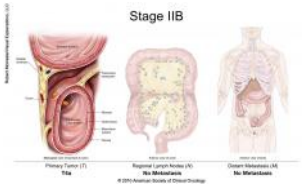
Stage IIB: The cancer has grown through the layers of the muscle to the lining of the abdomen (called the visceral peritoneum). It has not spread to the nearby lymph nodes or elsewhere (T4a, N0, M0).



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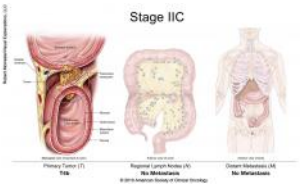
Stage IIC: The tumor has spread through the wall of the colon or rectum and has grown into nearby structures. It has not spread to the nearby lymph nodes or elsewhere (T4b, N0, M0).



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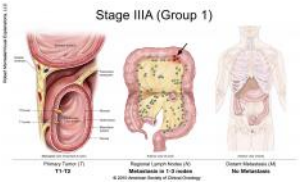
Stage IIIA: The cancer has grown through the inner lining or into the muscle layers of the intestine and spread to one to three lymph nodes, or to a nodule of tumor in tissues around the colon or rectum that do not appear to be lymph nodes but has not spread to other parts of the body (T1 or T2; N1 or N1c, M0 or T1, N2a, M0).



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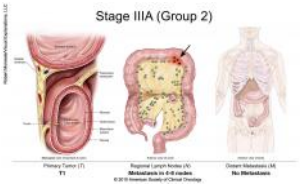

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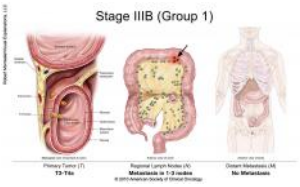
Stage IIIB: The cancer has grown through the bowel wall or to surrounding organs and into one to three lymph nodes or to a nodule of tumor in tissues around the colon or rectum that do not appear to be lymph nodes, but has not spread to other parts of the body (T3 or T4a, N1 or N1c, M0; T2 or T3, N2a, M0; or T1 or T2, N2b, M0).



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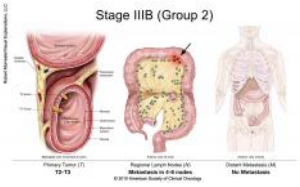

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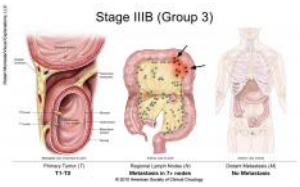

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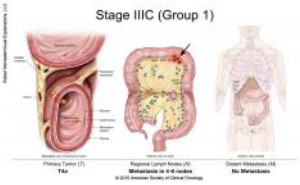
Stage IIIC: The cancer of the colon, regardless of how deep it has grown, has spread to four or more lymph nodes, but not to other distant parts of the body (T4a, N2a, M0; T3 or T4a, N2b, M0; or T4b, N1 or N2, M0).



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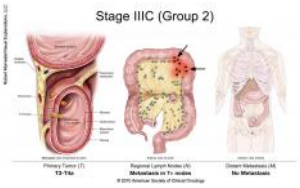

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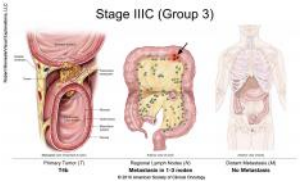

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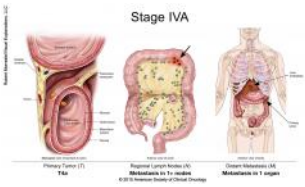
Stage IVA: The cancer has spread to a single distant part of the body, such as the liver or lungs (any T, any N, M1a).



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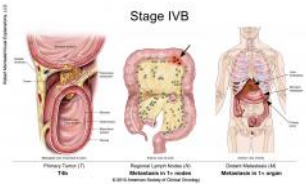
Stage IVB: The cancer has spread to more than one part of the body (any T, any N, M1b).



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Recurrent: Recurrent cancer is cancer that has come back after treatment. The disease may be found in the colon, rectum, or in another part of the body. If there is a recurrence, the cancer may need to be staged again (called re-staging) using the system above.

Tumor grade (G). Doctors may also use the term "grade," which describes how much the tumor appears like normal tissue. The grade of a cancer can help the doctor predict how quickly the cancer might grow. In cancer that resembles normal tissue, doctors can clearly see different types of cells grouped together. In a higher-grade cancer, the cancer cells usually look less like normal cells, or "wilder"). In general, a lower-grade cancer means a better prognosis.

GX: The tumor grade cannot be identified.

G1: The cells are more like normal cells (called well differentiated).

G2: The cells are somewhat like normal cells (called moderately differentiated).

G3: The cells look less like normal cells (called poorly differentiated).

G4: The cells barely look like normal cells (called undifferentiated).

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Links:
[1] http://www.cancer.net/about-us
[2] http://www.cancerstaging.net