

## **Appendix Cancer - Stages and Grades** [1]

This section has been reviewed and approved by the [Cancer.Net Editorial Board](#) [2], 04/2014

**ON THIS PAGE:** You will learn about how doctors describe a cancer's growth or spread. This is called the stage. In addition, you can read about how doctors evaluate and compare cancer cells to normal cells, called the grade. To see other pages, use the menu on the side of your screen.

Staging is a way of describing where the cancer is located, if or where it has spread, and whether it is affecting other parts of the body. Doctors use diagnostic tests to find out 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, which is the 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. TNM is an abbreviation for tumor (T), node (N), and metastasis (M). Doctors look at these three factors to determine the stage of cancer:

- How large is the primary tumor and where is it located? **(Tumor, T)**
- Has the tumor spread to the lymph nodes? **(Node, N)**
- Has the cancer metastasized to other parts of the body? **(Metastasis, M)**

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), depending on the type of cancer. The stage provides a common way of describing the cancer, so doctors can work together to plan the best treatments.

Here are more details on each part of the TNM system for appendix cancer, listed first for carcinoid tumors and then for carcinomas:

### **Staging for carcinoid tumors of the appendix**

**Tumor.** Using the TNM system, the "T" plus a letter or number (0 to 4) is used to describe the size and location of the tumor. Some stages are also divided into smaller groups that help describe the tumor in even more detail. Specific tumor stage information is listed below.

**TX:** The primary tumor cannot be evaluated.

**T0:** There is no evidence of cancer in the appendix.

**T1:** The tumor is 2 centimeters (cm) or smaller.

**T1a:** The tumor is 1 cm or smaller.

**T1b:** The tumor is larger than 1 cm but no larger than 2 cm.

**T2:** The tumor is larger than 2 cm but smaller than 4 cm, or it has extended into the large intestine.

**T3:** The tumor is larger than 4 cm or has extended into the small intestine.

**T4:** The tumor directly invades the abdominal wall or other nearby organs.

**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 body's immune system. There are regional lymph nodes, which are lymph nodes near the appendix. All others are distant lymph nodes, which are lymph nodes found in other parts of the body.

**NX:** The regional lymph nodes cannot be evaluated because of a lack of information.

**N0:** The cancer has not spread to the regional lymph nodes.

**N1:** The cancer has spread to the 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.

**M0:** The cancer has not spread to other parts of the body.

**M1:** The cancer has spread to other parts of the body.

### **Cancer stage grouping for carcinoid tumors of the appendix**

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

**Stage I:** The cancer is 2 cm or smaller and has not spread to the regional lymph nodes or to other parts of the body (T1, N0, M0).

**Stage II:** The cancer is larger than 2 cm and has or has not extended into the large or small intestine but has not spread to the regional lymph nodes or to other parts of the body (T2 or T3, N0, M0).

**Stage III:** Stage III cancer describes either of these situations:

- The cancer has directly invaded the abdominal wall or has spread to other nearby organs but has not spread to the regional lymph nodes or to other parts of the body (T4, N0, M0).

- The cancer is any size and may have spread to organs or structures near the appendix and has spread to the regional lymph nodes but not to distant parts of the body (T, N1, M0).

**Stage IV:** The cancer has spread to distant parts of the body, no matter the size of the tumor or whether it has spread to the regional lymph nodes (any T, any N, M1).

### **Staging for carcinomas of the appendix**

Appendiceal carcinomas are also staged according to the TNM staging system.

**Tumor.** Using the TNM system, the "T" plus a letter or number (0 to 4) is used to describe the size and location of the tumor. Some stages are also divided into smaller groups that help describe the tumor in even more detail. Specific tumor stage information is listed below.

**TX:** The primary tumor cannot be evaluated.

**T0:** There is no evidence of cancer in the appendix.

**Tis:** This refers to carcinoma in situ (also called cancer in situ). Cancer cells are found only in the first layers lining the inside of the appendix.

**T1:** The tumor has invaded the submucosa, which is the next deepest layer of the appendix.

**T2:** The tumor has invaded the muscularis propria, which is the third layer of the appendix.

**T3:** The tumor has grown through the muscularis propria and into the subserosa (a thin layer of connective tissue) of the appendix or into the mesoappendix, which is an area of fatty tissue next to the appendix that provides the blood supply.

**T4:** The tumor has grown through the visceral peritoneum, which is the lining of abdominal cavity, or it has invaded other organs.

**T4a:** The tumor has invaded the visceral peritoneum.

**T4b:** The tumor has invaded other organs or structures, such as the colon or rectum.

**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 body's immune system. There are regional lymph nodes, which are lymph nodes near the appendix. All others are distant lymph nodes, which are lymph nodes found in other parts of the body.

**NX:** The regional lymph nodes cannot be evaluated because of a lack of information.

**N0:** There is no regional lymph node metastasis.

**N1:** Cancer has spread to one to three regional lymph nodes.

**N2:** Cancer has spread to four 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 cancer has not metastasized.

**M1a:** There is intraperitoneal metastasis, which means the cancer has spread to organs or structures within the abdominal area.

**M1b:** There is nonperitoneal distant metastasis, which means the cancer has spread outside of the abdominal cavity.

**Grade.** Doctors also describe this type of cancer by its grade (G), which describes how much cancer cells look like healthy cells when viewed under a microscope. The doctor compares the cancerous tissue with healthy tissue. Healthy tissue usually contains many different types of cells grouped together. If the cancer looks similar to healthy tissue and contains different cell groupings, it is called differentiated or a low-grade tumor. If the cancerous tissue looks very different from healthy tissue, it is called poorly differentiated or a high-grade tumor. The cancer's grade can help the doctor predict how quickly the cancer will spread. In general, the lower the tumor's grade, the better the prognosis.

**GX:** The tumor grade cannot be identified.

**G1:** The tumor cells are well-differentiated.

**G2:** The tumor cells are moderately differentiated.

**G3:** The tumor cells are poorly differentiated.

**G4:** The tumor cells are undifferentiated.

### **Cancer stage grouping for carcinomas of the appendix**

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

**Stage 0:** This refers to cancer in situ. The cancer is found in only one place and has not spread (Tis, N0, M0).

**Stage I:** The cancer has spread to inner layers of appendix tissue but has not spread to the regional lymph nodes or to other parts of the body (T1 or T2, N0, M0).

**Stage IIA:** The cancer has grown into the connective or fatty tissue next to the appendix but has not spread to the regional lymph nodes or to other parts of the body (T3, N0, M0).

**Stage IIB:** The cancer has grown through the lining of the appendix but has not spread to the regional lymph nodes or to other parts of the body (T4a, N0, M0).

**Stage IIC:** The tumor has grown into other organs, such as the colon or rectum, but has not

spread to the regional lymph nodes or to other parts of the body (T4b, N0, M0).

**Stage IIIA:** The cancer has spread to inner layers of appendix tissue and to one to three regional lymph nodes but has not spread to other parts of the body (T1 or T2, N1, M0).

**Stage IIIB:** The cancer has grown into nearby tissue of the appendix or through the lining of the appendix and to one to three regional lymph nodes but has not spread to other areas of the body (T3 or T4, N1, M0).

**Stage IIIC:** This stage describes a cancer that has spread to four or more regional lymph nodes but not to other areas of the body (any T, N2, M0).

**Stage IVA:** This stage describes a cancer that has spread to other areas in the abdomen but not to the regional lymph nodes; the cancer cells are well differentiated (any T, N0, M1a, G1).

**Stage IVB:** Stage IVB describes any of these three situations;

- The cancer has spread to other areas in the abdomen but not to the regional lymph nodes; the cells are moderately or poorly differentiated (any T, N0, M1a, G2 or G3).
- The cancer has spread to other areas in the abdomen and to one to three regional lymph nodes; the cells may be any grade (any T, N1, M1a, any G).
- The cancer has spread to other areas in the abdomen and to four or more regional lymph nodes; the cells may be any grade (any T, N2, M1a, any G).

**Stage IVC:** The cancer has spread outside the abdominal area to distant parts of the body, such as the lungs (any T, any N, M1b, any G).

**Recurrent:** For both carcinoid tumors and carcinomas, recurrent cancer is cancer that has come back after treatment. If there is a recurrence, the cancer may need to be staged again (called re-staging) using the appropriate system above.

*Used with permission of the American Joint Committee on Cancer (AJCC), Chicago, Illinois. The original source for this material is the AJCC Cancer Staging Manual, Seventh Edition (2010) published by Springer-Verlag New York, [www.cancerstaging.net](http://www.cancerstaging.net) [3].*

*Information about the cancer's stage will help the doctor recommend a treatment plan. The next section helps explain the treatment options for this type of cancer. Use the menu on the side of your screen to select Treatment Options, or you can select another section, to continue reading this guide.*

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**Links:**

[1] <http://www.cancer.net/cancer-types/appendix-cancer/stages-and-grades>

[2] <http://www.cancer.net/about-us>

[3] <http://www.cancerstaging.net/>