



### What should people know about carcinoid tumors?

Carcinoid tumors, or carcinoids, are typically slow-growing *tumors* of *neuroendocrine cells*, specialized cells in the body that release *hormones* into the bloodstream when acted upon by nerve cells. *Neuroendocrine cells* can be found throughout the body.

Carcinoid tumors can develop in many different organs of the body. They are most often found in the digestive system, particularly the small intestine, appendix, and rectum, or in the lungs. They have been called "cancers in slow motion." Most carcinoids rarely spread to other parts of the body; these tumors are said to be of *low malignant potential*, midway between *benign* and *malignant*. Other carcinoids are *malignant* and can spread to other parts of the body.

Sometimes, particularly when a malignant tumor has spread, the hormone-producing cells that make up the tumor release enough hormone-like substances into the bloodstream to cause symptoms. This is called the carcinoid syndrome. Symptoms of carcinoid syndrome most often include hot, red flushing of the face, diarrhea, and wheezing, as well as others that depend on which hormone-like substances the tumor is releasing.

### Who gets carcinoid tumors?

Carcinoid tumors are rare, making up one half of one percent of all cancers. The average age of onset is in the early 60s. Women are slightly more likely to develop carcinoid tumors than men, and African Americans are at a slightly greater risk than whites.

### What are the risk factors for carcinoid tumors?

Very few risk factors have been identified for carcinoid tumors. Carcinoid tumors are more likely to develop in people who have a family history of certain rare genetic syndromes, including multiple endocrine neoplasia type 1 (MEN1), and neurofibromatosis. Lung carcinoids have also been found to occur more frequently in children whose parents have had carcinoids, but the risk in the children is still very low. Since risk factors like family history cannot be changed, there is currently no known way to prevent carcinoid tumors. Some studies suggest that smoking may be associated with a greater risk of carcinoids of the small intestine or lungs, but more research needs to be done to confirm this.

#### Terms

*Tumor* - An unusual mass or growth of cells. Tumors are usually either benign (non-cancerous) or malignant (cancerous); sometimes, they are midway in between.

*Neuroendocrine cell* - A cell that releases *hormones* in response to stimulation by nerve cells.

*Hormone* - A substance produced in one part of the body that has an effect on cells in another part of the body.

*Benign* - Non-cancerous

*Malignant* - Cancerous

*Low malignant potential* - Having a low likelihood of becoming cancerous

#### Signs and symptoms

Many carcinoid tumors have no symptoms and are found when treating or looking for causes of other problems. When symptoms occur, they can be the same as symptoms of other, more common conditions. Symptoms of carcinoid tumors can include:

Abdominal pain

Intestinal bleeding

Coughing up blood

Pneumonia that is not cured by antibiotics

Carcinoid syndrome (flushing of the face, diarrhea, wheezing)