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# Gastrointestinal Carcinoid Tumor Causes, Risk Factors, and Prevention

Learn about the risk factors for gastrointestinal carcinoid tumors and what you might be able to do to help lower your risk.

## Risk Factors

A risk factor is anything that affects your chance of getting a disease such as cancer. Learn more about the risk factors for gastrointestinal carcinoid tumors.

- [Gastrointestinal Carcinoid Tumor Risk Factors](#)
- [What Causes Gastrointestinal Carcinoid Tumors?](#)

## Prevention

At this time, there is no known way to prevent gastrointestinal carcinoid tumors. Since smoking might increase the risk of carcinoid tumors of the small intestine, not starting or quitting smoking may reduce the risk for this disease.

## More in Gastrointestinal Carcinoid Tumors

- [About Gastrointestinal Carcinoid Tumors](#)
- [Causes, Risk Factors, and Prevention](#)
- [Early Detection, Diagnosis, and Staging](#)
- [Treatment](#)
- [After Treatment](#)





developing stomach carcinoid tumors, but their risk for carcinoid tumors of other organs is not affected.

## Family history of any type of cancer

Having a family history of any cancer, specifically in a first-degree relative (sibling, parent, or child), or a family history of a neuroendocrine tumor or carcinoid tumor seems to raise the risk of developing a carcinoid tumor.

## Factors with uncertain or unproven effects

### Smoking

It is not clear if [smoking](#)<sup>2</sup> increases the risk of getting a carcinoid tumor. Further studies are needed.

## Hyperlinks

1. [www.cancer.org/cancer/risk-prevention/genetics.html](http://www.cancer.org/cancer/risk-prevention/genetics.html)
2. [www.cancer.org/cancer/risk-prevention/tobacco.html](http://www.cancer.org/cancer/risk-prevention/tobacco.html)
3. [www.cancer.gov/types/gi-carcinoid-tumors/hp/gi-carcinoid-treatment-pdq#section/ 21](http://www.cancer.gov/types/gi-carcinoid-tumors/hp/gi-carcinoid-treatment-pdq#section/21)
4. [www.cancer.org/cancer/types/gastrointestinal-carcinoid-tumor/references.html](http://www.cancer.org/cancer/types/gastrointestinal-carcinoid-tumor/references.html)

## References

Benafif S and Eeles R. Diagnosis and Management of Hereditary Carcinoids. *Recent Results Cancer Res.* 2016; 205:149-68. doi: 10.1007/978-3-319-29998-3\_9.

Hassan MM, Phan A, Li D, Dagohoy CG, Leary C, Yao JC. Family history of cancer and associated risk of developing neuroendocrine tumors: a case-control study. *Cancer Epidemiol Biomarkers Prev.* 2008 Apr;17(4):959-65. doi: 10.1158/1055-9965.EPI-07-0750.

Hassan MM, Phan A, Li D, Dagohoy CG, Leary C, Yao JC. Risk factors associated with neuroendocrine tumors: A U.S.-based case-control study. *Int J Cancer.* 2008 Aug 15;123(4):867-73. doi: 10.1002/ijc.23529.

Kaerlev L, Teglbjaerg PS, Sabroe S, et al. The importance of smoking and medical history for development of small bowel carcinoid tumor: a European population-based case-control study. *Cancer Causes Control*. 2002;13:27–34.

Modlin IM, Lye KD, Kidd M. A 5-decade analysis of 13,715 carcinoid tumors. *Cancer*. 2003; 97:934–959.

National Cancer Institute Physician Data Query (PDQ). Gastrointestinal Carcinoid Tumors Treatment (PDQ®)—Health Professional Version. 2018. Accessed at

[https://www.cancer.gov/types/gi-carcinoid-tumors/hp/gi-carcinoid-treatment-pdq#section/\\_21](https://www.cancer.gov/types/gi-carcinoid-tumors/hp/gi-carcinoid-treatment-pdq#section/_21)<sup>3</sup> on July 31, 2018.

Norton JA and Kunz PL. Carcinoid) Tumors and the Carcinoid Syndrome. In: DeVita VT, Hellman S, Rosenberg SA, eds. *Cancer: Principles and Practice of Oncology*. 10th ed. Philadelphia, Pa: Lippincott Williams & Wilkins; 2015:1218—1226.

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## What Causes Gastrointestinal Carcinoid Tumors?

For more about how genes changes can lead to cancer, see [Genes and Cancer](#)<sup>1</sup>.

## Inherited gene mutations

Some DNA mutations can be passed on in families and are found in a person's cells. These are inherited (or **familial**) mutations. A small portion of carcinoid tumors are caused by inherited gene mutations.

Changes in 4 tumor suppressor genes are responsible for many inherited cases of carcinoid tumors.

- **MEN1** (multiple neuroendocrine neoplasia 1). Changes in this gene account for most inherited cases. A smaller number are caused by inherited changes in the following genes:
- **NF1** (Neurofibromatosis type 1) gene
- **VHL** (Von Hippel–Lindau) gene
- **TSC1 or TSC2** (tuberous sclerosis complex 1 or 2) genes

Most carcinoid tumors are caused by sporadic changes (mutations) in oncogenes or tumor suppressor genes. Mutations are called **sporadic** if they occur after a person is born, rather than having been inherited.

## Hyperlinks

1. [www.cancer.org/cancer/understanding-cancer/genes-and-cancer.html](http://www.cancer.org/cancer/understanding-cancer/genes-and-cancer.html)
2. [www.cancer.org/cancer/types/gastrointestinal-carcinoid-tumor/references.html](http://www.cancer.org/cancer/types/gastrointestinal-carcinoid-tumor/references.html)

## References

Benafif S and Eeles R. Diagnosis and Management of Hereditary Carcinoids. *Recent Results Cancer Res.* 2016; 205:149-68. doi: 10.1007/978-3-319-29998-3\_9.

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[See all references for Gastrointestinal Carcinoid Tumor](#)

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# Can Gastrointestinal Carcinoid Tumors Be Prevented?

At this time, there is no known way to prevent gastrointestinal carcinoid tumors. Since smoking might increase the risk of carcinoid tumors of the small intestine, not starting or quitting smoking may reduce the risk for this disease. More studies are needed to know for sure.

## Hyperlinks

1. [www.cancer.org/cancer/types/gastrointestinal-carcinoid-tumor/references.html](http://www.cancer.org/cancer/types/gastrointestinal-carcinoid-tumor/references.html)

## References

Hassan MM, Phan A, Li D, Dagohey CG, Leary C, Yao JC. Risk factors associated with neuroendocrine tumors: A U.S.-based case-control study. *Int J Cancer*. 2008 Aug 15;123(4):867-73. doi: 10.1002/ijc.23529.

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[See all references for Gastrointestinal Carcinoid Tumor](#)

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