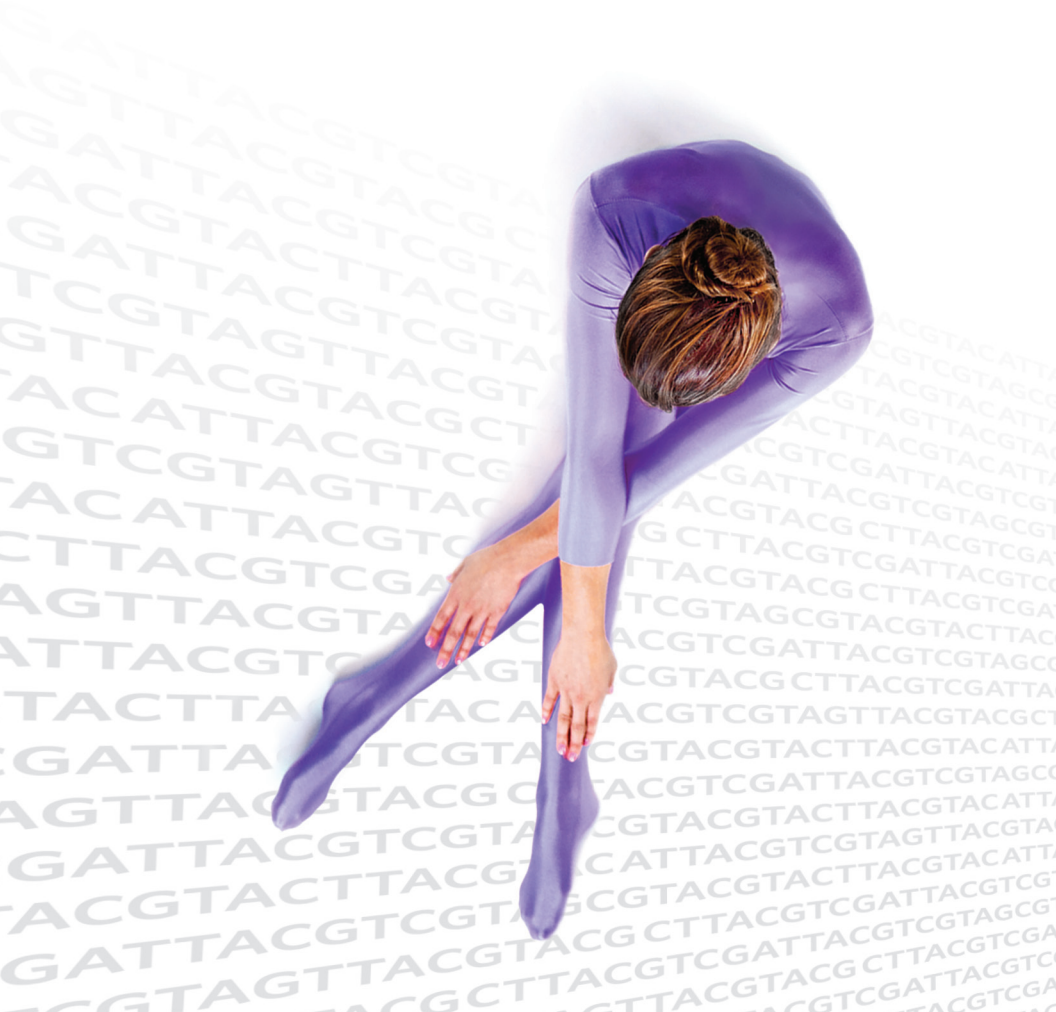
PATIENT GUIDE

PancNext™ - A Genetic Test for Hereditary Pancreatic Cancer



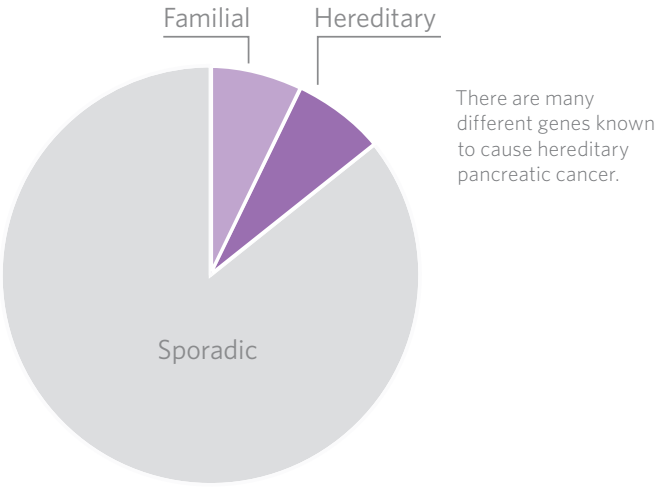
What is hereditary pancreatic cancer?

Pancreatic cancer is a relatively uncommon cancer (it affects about 1 in 78 people). Risk factors for developing pancreatic cancer include cigarette smoking, type 2 diabetes, chronic pancreatitis, obesity, cirrhosis of the liver, and family history of pancreatic cancer.

Most people who develop pancreatic cancer have no family history of the disease. These are called "*sporadic*" cancers.

About 10% of people who develop pancreatic cancer have a family history of the disease. Some of these families are classified as having "*hereditary*" pancreatic cancer. Hereditary pancreatic cancer is due to inherited genetic causes that people are born with (these gene changes do not develop over time).

PANCREATIC CANCER BREAKDOWN



Many families with a history of pancreatic cancer do *not* have an identifiable genetic cause. These "*familial*" cases may be due to genes that have not yet been identified, other shared factors such as environment or lifestyle, or a combination of all of these.

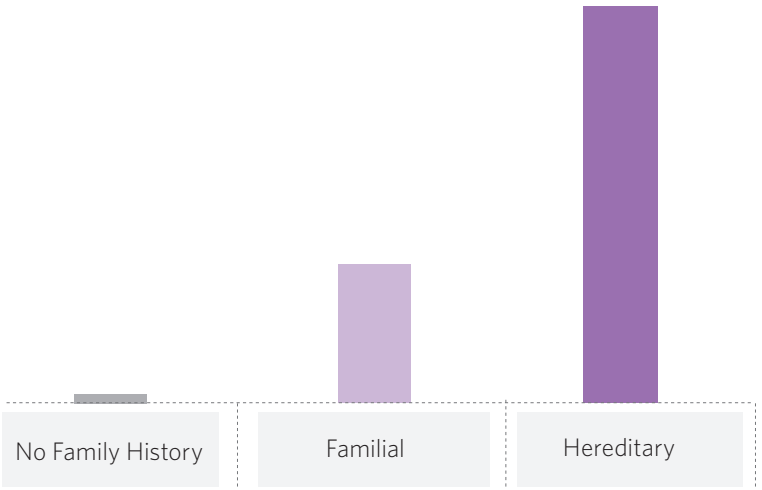
WHAT IS YOUR RISK FOR PANCREATIC CANCER?

Risk assessment by a healthcare provider can help define your chance of developing pancreatic cancer.

- A person with no family history of pancreatic cancer most likely has "*sporadic*" or average risk. The average risk of developing pancreatic cancer is about 1% over a lifetime. People who have risk factors for pancreatic cancer (described on page 1) may have a higher risk.
- For the person who has a family history of pancreatic cancer, genetic testing *may* be indicated to help determine if he/she has a moderately increased "*familial*" risk or a high "*hereditary*" risk of developing pancreatic cancer. The level of risk depends on the number of family members with pancreatic cancer and whether or not a genetic cause is identified.
- If someone has had pancreatic cancer, genetic testing *may* be indicated to help determine if he/she has an increased risk for additional cancers.

Defining a person's pancreatic cancer risk (average, familial, or hereditary) helps his/her healthcare providers make personalized recommendations for cancer screening and prevention.

PANCREATIC CANCER RISK



If you have a family history of pancreatic cancer and/or a gene mutation, your doctor may recommend specific tests to screen for pancreatic cancer.

IS PANCNEXT GENETIC TESTING INDICATED FOR YOU?

Genetic testing may be indicated if you have a personal history and/or family history of any of the following:

- ☐ Pancreatic cancer diagnosed younger than age 60
- ☐ More than one cancer in the same person (ex. pancreatic and colon or breast cancer)
- ☐ Two or more family members with pancreatic cancer (*on the same side of the family*)
- ☐ Three or more family members with pancreatic, breast, colon, uterine, ovarian, and/or melanoma (*on the same side of the family*)
- ☐ Multiple close family members with pancreatic and other cancers (*on the same side of the family*)

* More than one cancer in the same person refers to more than one independent cancers, not one cancer that spread to other body parts.

PANCNEXT: THE GENES & ASSOCIATED FINDING(S)

GENE(S)	ASSOCIATED FINDING(S)	SYNDROME NAME
APC	Colorectal, brain, pancreas and other cancers Multiple adenomatous polyps	Familial Adenomatous Polyposis (FAP) syndrome
ATM	Breast and pancreas	
BRCA1 *BRCA2*	Breast, ovary, pancreas, prostate, fallopian tube, and male breast cancer	Hereditary Breast-Ovarian Cancer syndrome
CDKN2A	Melanoma, pancreas	
MLH1, MSH2 *MSH6, PMS2* *EPCAM*	Colorectal, uterus, ovary, stomach, pancreas and other cancers	Lynch syndrome
PALB2	Breast and pancreas	
STK11	Breast, colorectal, stomach, pancreas, and other cancers; specific colon polyps	Peutz-Jeghers syndrome
TP53	Breast, sarcoma, brain, adrenocortical, colorectal, pancreas and other cancers	Li-Fraumeni syndrome

HOW DOES PANCNEXT GENETIC TESTING WORK?

The genetic test is done using a blood or saliva sample. Your sample is collected using a special kit which is shipped overnight to Ambry Genetics Laboratory (this is all coordinated by your healthcare provider).

Once your sample arrives at Ambry, 13 known pancreatic cancer genes are analyzed. Everyone has these genes – they each have a specific role in your body. The genetic test is looking for any changes ("*mutations*") that make the gene(s) non - functional.

Genetic testing must be ordered by a healthcare provider and should be performed in the context of pre- and post-test education so that you understand the test and its implications for you and your family members.

POTENTIAL GENETIC TEST RESULTS & IMPLICATIONS

POSITIVE	NEGATIVE	INCONCLUSIVE
A gene change ("mutation") was found in one of the genes tested. There is an increased risk for certain cancer(s) specific to the gene mutation. Cancer screening and prevention recommendations will be provided by your clinician(s) based on the genetic test result. Genetic testing will be recommended for family members.	No changes, or mutations, were found in any of the genes tested. Cancer risk(s) are specific to the family history of cancer. Cancer screening and prevention recommendations will be made by your clinician(s) based on the family history of cancer. Genetic testing most likely will not be recommended for other family members.	A genetic change was found but it is unclear if this change is benign or increases risk for cancer. Cancer risk(s) are specific to the family history of cancer. Cancer screening and prevention recommendations will be made by your clinician(s) based on the family history of cancer. Genetic testing most likely will not be recommended for other family members.

COMMON QUESTIONS ABOUT GENETIC TESTING

Q1. WILL GENETIC TESTING BE COVERED BY MY INSURANCE?

When patients meet the indications described on page 3, genetic testing is often covered and many patients have coverage at 90 or 100%. Ambry Genetics works closely with insurance companies through a coverage verification process. If out-of-pocket costs are anticipated to be greater than $100, you will be contacted before the test is started.

Q2. CAN GENETIC TEST RESULTS BE USED AGAINST ME?

The Genetic Information Non-Discrimination Act (2008) prohibits discrimination by health insurance companies and employers based on genetic information. Additionally, Ambry Genetics only provides genetic test results to your ordering healthcare provider.

Q3. IF I HAVE ALREADY HAD PANCREATIC CANCER, DO I NEED GENETIC TESTING?

Genetic testing is most informative when first performed in a family member who has already had pancreatic cancer. Results can provide an explanation for why the cancer occurred, and, more importantly, can provide information about future cancer risks. Genetic test results can change your ongoing medical management and can help your family members understand their risk of developing cancer.

Q4. WHAT IF I PREVIOUSLY HAD PANCREATIC CANCER GENETIC TESTING AND NO MUTATION WAS IDENTIFIED?

PancNext may be ideal because additional pancreatic cancer genes will be analyzed that could potentially provide an answer for you and your family. Your healthcare provider can indicate on the test order form that genetic testing was previously performed.

TEST RESULT AND RECOMMENDATIONS

(To be completed by you and your healthcare provider when you receive your genetic test results and medical management recommendations)

TEST RESULT

- ☐ No Mutation Detected
- ☐ Positive for a mutation in _____ gene
- ☐ Variant of unknown significance in _____ gene

RECOMMENDATIONS FOR YOU

RECOMMENDATIONS FOR FAMILY MEMBERS

- ☐ Genetic testing not indicated for family members
- ☐ Genetic testing recommended for family members

SUPPORT GROUPS

Support groups can build a sense of community and aid in answering some of the everyday questions.

The National Pancreas Foundation
pancreasfoundation.org

Pancreatic Cancer Action Network
pancan.org

Pancreatic Cancer Alliance
pancreaticalliance.org

OTHER RESOURCES

Find a Genetic Counselor
nsgc.org

ABOUT AMBRY

Innovation: Ambry is a leading provider of diagnostic genetic testing, with years of experience using next-generation sequencing technologies.

Expertise: Since 2001, Ambry has performed hundreds of thousands of genetic tests and identified more than 45,000 mutations in greater than 500 different genes.

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To learn more
visit ambrygen.com

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