

Information + Taking Control = Best Outcome



Gastroenterology



Oncology

Fast Facts Information Sheets for Patients

# **KRAS Biomarkers in Colorectal Cancer**

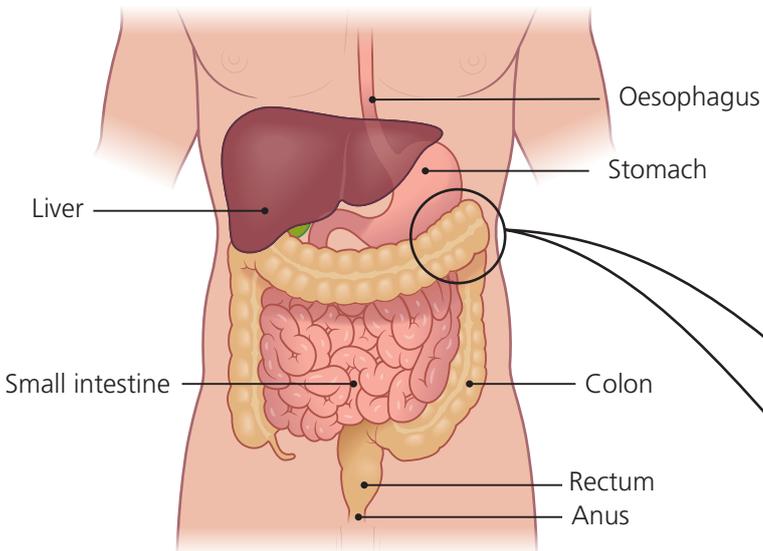
HEALTHCARE

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# KRAS Biomarkers in Colorectal Cancer

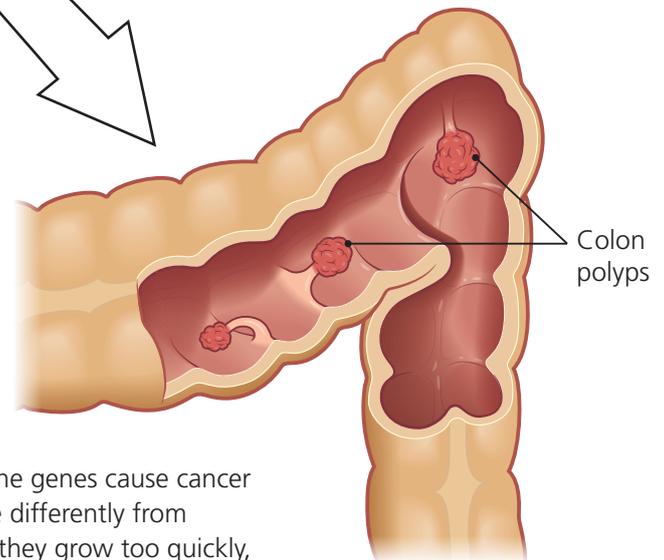
## What is colorectal cancer?

**Colorectal cancer** – often abbreviated to CRC – is cancer that begins in the **colon** or the **rectum**. The colon and rectum are found in the part of your digestive system known as the large intestine. The colon is sometimes called the large bowel.



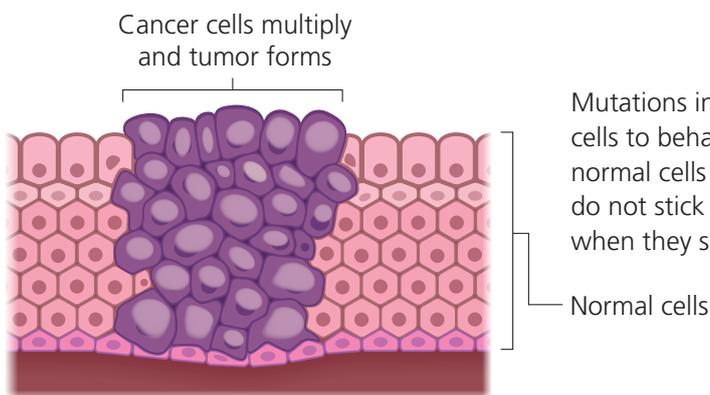
## Are there different kinds of CRC?

There are several types of CRC. The most common type is **adenocarcinoma**, which develops from cells that line the inside of the large intestine. Adenocarcinomas typically begin as an abnormal tissue growth called a **polyp** or **adenoma** inside the colon or rectum.



## How are cancer cells different?

Cancer cells are different to healthy cells because they have changes (**mutations**) in their **genes**. Genes carry instructions for making proteins that control how body cells multiply and function.



Mutations in the genes cause cancer cells to behave differently from normal cells – they grow too quickly, do not stick together or do not die when they should.

## What is a biomarker?

Biomarkers include genes and proteins that can be used to measure a disease and the progression of a disease.

Biomarkers can be used for different things. In CRC, they can be used in diagnosing the disease (these are **diagnostic biomarkers**), monitoring changes and predicting how the cancer may develop (**prognostic biomarkers**), and to help select the best type of treatment (**predictive biomarkers**). Some biomarkers have more than one use.

KRAS is one of many biomarkers in colorectal cancer.

## What is KRAS?

**KRAS** is a

- gene mutation
- biomarker

45% of people with CRC have a KRAS mutation.

There are different types of KRAS mutation.

The most common KRAS mutations in CRC are G12D, G12V, G13C, and G12C

# KRAS Biomarkers in Colorectal Cancer... *contd*

## How do I know if my cancer cells have a KRAS mutation?

Testing for biomarkers is done on a sample (a **biopsy**) of your cancer cells or with a blood test.

Your surgeon probably took a sample of your tumor during a colonoscopy when you were first diagnosed or during surgery, if you had it. If your cancer has spread and you have new tumors in a different part of your body, your doctor will collect a sample from these tumors. This sample will then be tested for biomarkers.

## What is the outlook for people with CRC with a KRAS mutation?

People with KRAS-positive CRC often do not respond to treatments currently available as well as people who do not have KRAS-positive CRC.

However, the outlook for people with KRAS-positive metastatic cancer is improving. Scientists have developed the first treatments to target a KRAS mutation in a type of lung cancer.

Trials are now happening to investigate these treatments for CRC.

## Why is it important to know which KRAS mutation my cancer has?

Finding out which KRAS mutation your CRC has can help your doctor know which treatments

- are likely to work best for you
- are not likely to be effective.

Also, new treatments are being developed that directly target the abnormal protein produced by the mutated KRAS gene. These are called 'targeted therapies'.

## Clinical trials

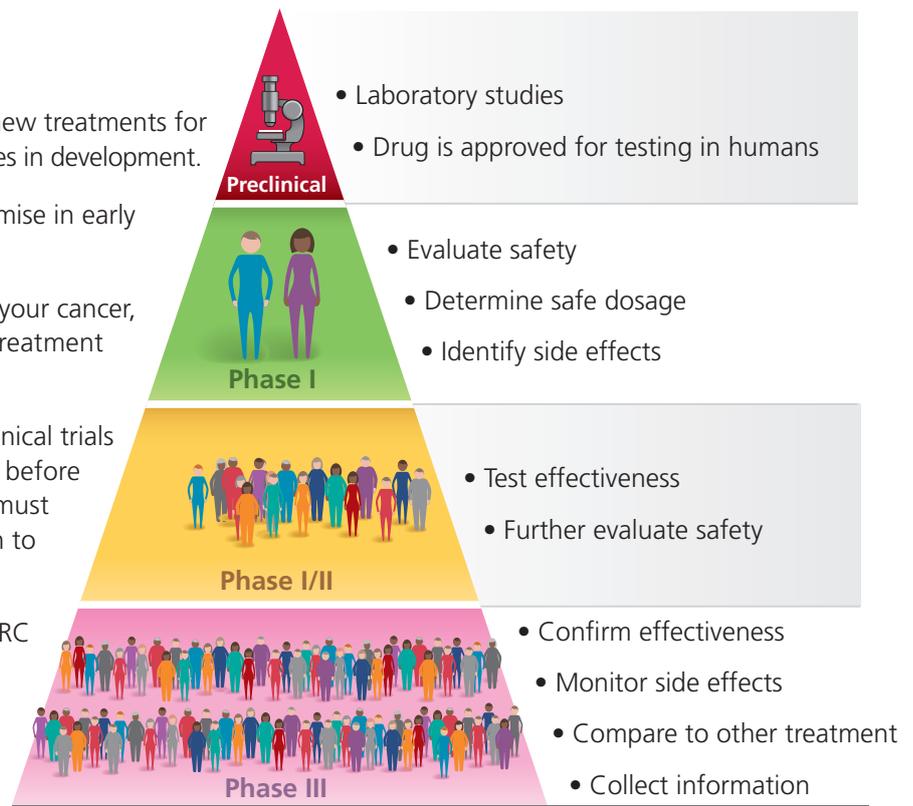
Research is going on all the time into new treatments for cancer. There are more targeted therapies in development.

All potential treatments that show promise in early tests need to enter clinical trials.

So, if there is no approved therapy for your cancer, there may be a clinical trial of a new treatment that you can join, if you qualify for it.

There are several different phases of clinical trials that new treatments must go through before they can be approved. The treatment must pass each phase before it can move on to the next.

Colorectal Cancer Alliance and Fight CRC have information about clinical trials. Your doctor may also be able to give you information.



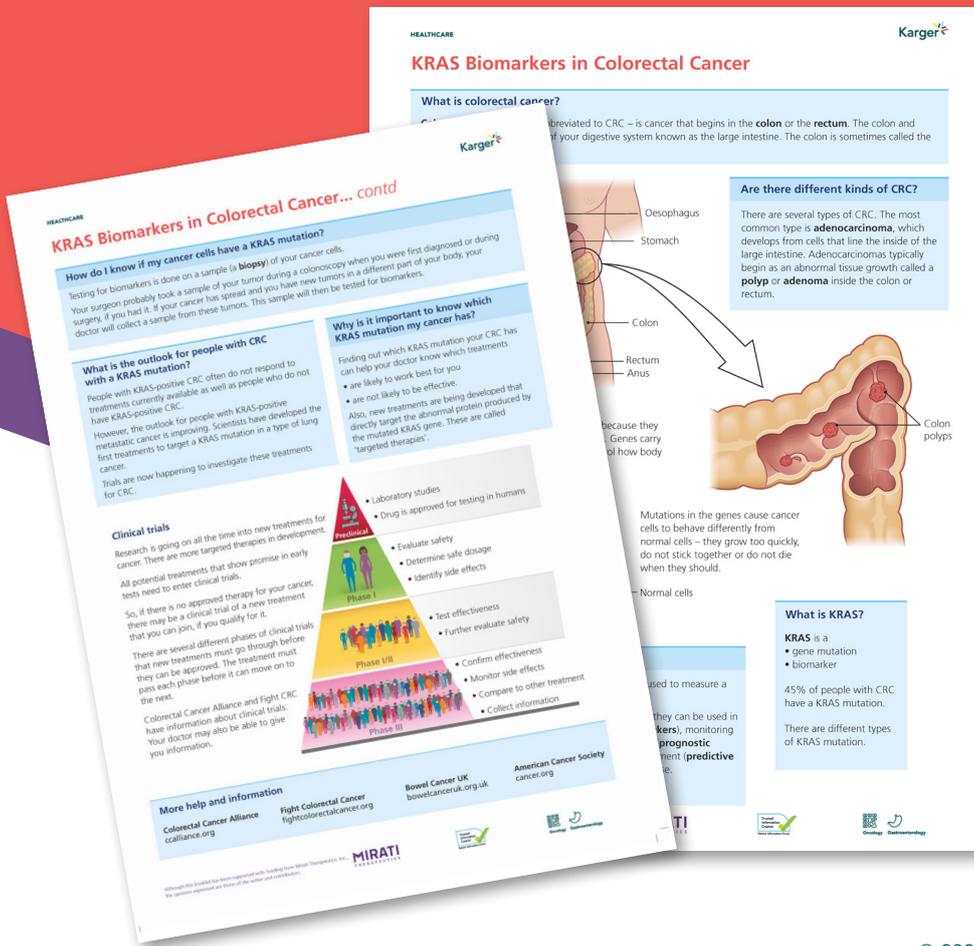
## More help and information

**Colorectal Cancer Alliance**  
ccalliance.org

**Fight Colorectal Cancer**  
fightcolorectalcaner.org

**Bowel Cancer UK**  
bowelcanceruk.org.uk

**American Cancer Society**  
cancer.org



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