Printed June 19, 2013 from http://www.cancer.net/publications-and-resources/cancer-advances/news-patients-asco-symposia/gastrointestinal-cancer-advances-news-2009-gastrointestinal-cancers-symposium/testing-gene-mutation-helps-patients-metastatic-colorectal-cancer-avoid-unnecessary-treatment-and

Testing for a Gene Mutation Helps Patients With Metastatic Colorectal Cancer Avoid Unnecessary Treatment and Could Save Money

The study: Researchers calculated the potential cost savings of testing for the *KRAS* gene for patients with metastatic colorectal cancer (cancer that has spread to other areas of the body). *KRAS* is a gene that controls tumor growth and spread. Using the American Cancer Society's estimates of the number of people diagnosed with metastatic colorectal cancer each year, they determined the cost of testing each newly diagnosed patient for a genetic mutation (change) in the *KRAS* gene and treating each patient with the drug cetuximab (Erbitux). Previous studies have shown that patients who have the unchanged *KRAS* gene are more likely to be successfully treated with cetuximab, and those who have the *KRAS* gene mutation do not benefit from the drug. The cost of using cetuximab to treat only patients with an unchanged *KRAS* gene was compared with the cost of using cetuximab for all patients with metastatic colorectal cancer. For this study, researchers estimated that about 36% of patients have a tumor with a *KRAS* mutation. However, some studies have shown that as many as 46% of patients with metastatic colorectal cancer have a *KRAS* mutation.

The results: An estimated 28,724 people were diagnosed with metastatic colorectal cancer in 2008. Researchers estimated that the cost of testing each of these patients for a *KRAS* mutation is approximately $13 million ($452 per person). On average, a patient who is newly diagnosed with metastatic colorectal cancer receives 24 doses of cetuximab, at a total drug cost of $61,279 per patient. Based on these costs, researchers determined that treating only the 64% of patients with an unchanged *KRAS* gene can save the U.S. health care system approximately $617 million. When subtracting the cost of *KRAS* testing, the savings is about $604 million. These savings do not include the costs of administering the drug or treating side effects, which are necessary for patients receiving cetuximab.

What this means for patients

?Previous research has shown that treatment decisions for patients with metastatic colorectal cancer should be based on *KRAS* testing. Although a significant number of institutions are incorporating this, it's not yet universal. Our findings show that *KRAS* testing could spare thousands of people with colorectal cancer from side effects of treatments that are highly unlikely to improve their health while reducing costs for the health care system,? said lead author Veena Shankaran, MD, Postdoctoral Fellow at the Veterans Administration Center for the Management of Complex Chronic Care and Northwestern University's Robert H. Lurie Comprehensive Cancer Center.

Patients should keep in mind that these are savings for the health care system in general. The cost of testing and treatment is different for each patient and based on many factors. Talk with your doctor about *KRAS* testing and the best treatments for your type of cancer. In addition, feel free to talk about the costs associated with treatment, including the tests and procedures that are covered by your health insurance. For more information, read ASCO's recommendation on *KRAS* testing [1].

What to Ask Your Doctor

- What type of colorectal cancer do I have? Has it spread to other areas of the body?
- Is *KRAS* testing available to me?
- How will *KRAS* testing help determine the treatment I receive?
- What treatment options are available to me?

For More Information

Cancer.Net Guide to Colorectal Cancer [2]

Tumor Mutation Predicts Effectiveness of Cetuximab for Colorectal Cancer [3]

Financial Resources [4]

Links:
[1] http://www.asco.org/pco/kras
[2] http://www.cancer.net/node/18701
[3] http://www.cancer.net/node/24709
[4] http://www.cancer.net/node/25370