

Backgrounder: Experience of Patients with Advanced Colorectal Cancer (CRC)

How complete biomarker testing helped these colorectal cancer (CRC) survivors get the right treatment, including precision oncology: more personalized treatment matched to a patient's genomic profile



Coby Neill

Stage IV colon cancer survivor

Complete biomarker testing gave Coby hope for a longer life

- In 2017, began losing weight dramatically
- Experienced increasing pain each day and loss of energy
- Diagnosed with stage IV colon cancer
- An oncologist gave Coby six months to live
- Complete biomarker testing revealed a *HER2* gene mutation
- Began treatment in a clinical trial immediately, without chemotherapy
- Immediately responded well
- Disease stable for the past three years

In 2017, Coby began losing weight dramatically and experiencing increasing pain in his stomach and back. He knew he was in trouble. Coby was diagnosed with stage IV colon cancer and one oncologist said he had six months to live.

A family member suggested Coby get complete biomarker testing. One week later, the results from the blood test revealed that Coby had a *HER2* gene mutation which has long been known to drive breast cancer, but also occurs in approximately 5% of colorectal cancer patients¹, and has targeted therapies.

Coby immediately began treatment in a clinical trial of a targeted therapy, without chemotherapy. He started to feel better soon after. Within weeks, the pain subsided and he was able to return to sleeping in his bed, something he hadn't done in the previous six months due to the pain.

More than three years later, Coby is disease stable. He is doing well, creating art and spending time with his wife, children, and grandchildren in Ozark, Missouri.



LuAnn D

Stage IV colorectal cancer survivor

Knowing her biomarkers gave LuAnn a more complete picture

- Never had any symptoms
- Got a colonoscopy at age 53 when it was finally “convenient”
- A gastroenterologist told LuAnn there was a 7cm mass in her cecum
- The mass turned out to be cancerous and spread to her liver
- LuAnn was diagnosed with stage IV cancer
- Began chemotherapy in 2018
- Had surgery to remove appendix, cecum, right ascending colon, and gallbladder
- Resumed chemotherapy shortly after and her disease did not progress
- But in 2020, recurrence was discovered via CT scan
- Liquid biopsy-based biomarker testing revealed new mutations
- This alerted them that something was not right
- Fortunately, she was able to have a resection again
- Additional biomarker testing revealed LuAnn had a TMB of 15.4 and PDL1 expression of 26
- Began an FDA-approved immunotherapy
- LuAnn’s tests show there is no cancer remaining and she feels good

LuAnn did not get a colonoscopy until age 53, when it was finally “convenient” for her. After all, she had not experienced any symptoms. Her gastroenterologist found a 7cm mass in her cecum, which turned out to be cancerous and spreading to her liver. Things went black for LuAnn.

For most of 2018, it was chemotherapy. LuAnn dealt with the hair loss, vomiting, weakness. In May, she learned she could be resected and in one day surgeons removed her appendix, cecum, right ascending colon, half of the transverse colon, a third of her liver, and gallbladder.

A few months after the surgery she resumed chemotherapy and the treatments seemed to have worked. But in 2020, recurrence was discovered via a regularly scheduled CT scan. LuAnn’s oncologist suggested additional biomarker testing.

Liquid biopsy-based biomarker testing revealed new mutations. This alerted her team that something was not right. Additional biomarker testing revealed LuAnn had a TMB of 15.4 and PDL1 expression of 26. Though she was considered microsatellite stable (MSS), not microsatellite instable (MSI-H), her oncologist felt immunotherapy could still be a valid option. She started an FDA-approved immunotherapy and now after only two rounds, it appears there is no more evidence of the cancer.

Today LuAnn feels great. Knowing her biomarkers gave her a more complete picture and helped bring pieces of the puzzle together. She wants complete biomarker testing to be part of her ongoing treatment plan.

**Marie Sander**

Stage IV colorectal cancer survivor

Biomarker testing helped validate that chemotherapy was the right path for Marie

- Diagnosed and treated for early-stage breast cancer in 2007
- Was living cancer free for six years
- Routine bloodwork in 2013 showed an iron deficiency
- After positive stool test, colonoscopy showed mass in sigmoid colon
- Scans showed five tumors in liver and questionable spot in lung
- Soon had colon resection followed by six cycles of chemotherapy
- There was progression – a liver biopsy confirmed CRC metastasis
- Led to four cycles of chemotherapy then liver resection in 2014
- Then eight more cycles of chemotherapy
- In 2015, there was a new tumor in liver and a spot again in lung
- Biomarker testing for Lynch, *BRCA1*, *BRCA2* came back negative
- Proceeded with 4 more cycles of chemotherapy
- Liver and lung resections followed by two more cycles of chemotherapy
- In 2017, there was a new spot in liver and a biopsy was inconclusive
- In 2018, same spot lighting up on scans – a liver biopsy again confirmed metastasis
- That April, liver resection and tumor was sent out for complete biomarker testing
- Results revealed nothing targetable
- Proceeded with surgery to remove abdominal nodule from tumor seeding and liver resection
- Last chemotherapy treatment took place in March of 2016
- Just graduated from scans every three months to liver MRIs every six months and chest CT scans yearly
- Exploring surveillance testing between scans in addition to carcinoembryonic antigen (CEA) tests
- Marie plans to have additional biomarker testing done

Marie has been a breast cancer survivor since 2007. During regular blood work in 2013, an iron deficiency was revealed, signaling that something might be wrong. Her doctor prescribed a stool-based test to check for colorectal cancer. After a positive result, she went in for a colonoscopy and endoscopy. When she awoke, her gastroenterologist told her there was a mass in her colon.

Marie was diagnosed with stage IV colorectal cancer (CRC), already metastasized to her liver. A family member who was a thoracic surgeon advised that she act right away. She soon had a colon resection, followed by six cycles of chemotherapy, then a liver resection. After more chemotherapy, she showed progression in her liver and had to have additional surgery followed by more chemotherapy.

Things were getting better, but in 2015 a new tumor was found in her liver. Complete biomarker testing was recommended, including for *BRCA1*, *BRCA2*, and Lynch syndrome. Results came back negative. Knowing this, Marie felt confident proceeding with surgery and chemotherapy. In 2018 there was metastasis again in her liver, and biomarker testing again revealed nothing targetable. Once more Marie proceeded with surgery and her last chemotherapy treatment took place in 2016.

Marie has recently graduated from scans every three months to liver MRIs every six months and chest CT scans yearly. She plans to have additional biomarker testing done. Today Marie continues to enjoy each day with her family and friends in New Jersey.

References

1. Siena S, Sartore-Bianchi A, Marsoni S, Hurwitz H, McCall S, et al. Targeting the human epidermal growth factor receptor 2 (*HER2*) oncogene in colorectal cancer. *Annals of Oncology*. 2018; 29(5): 1108–1119.