

**GETTING GASTROINTESTINAL CANCER  
PATIENTS ON THE RIGHT TREATMENT, FASTER;  
BECAUSE TIME MATTERS.**

# **Comprehensive Molecular Testing for Gastrointestinal Cancer**

NCCN Guidelines | Actionable Markers Beyond NCCN | DNA + RNA + MSI

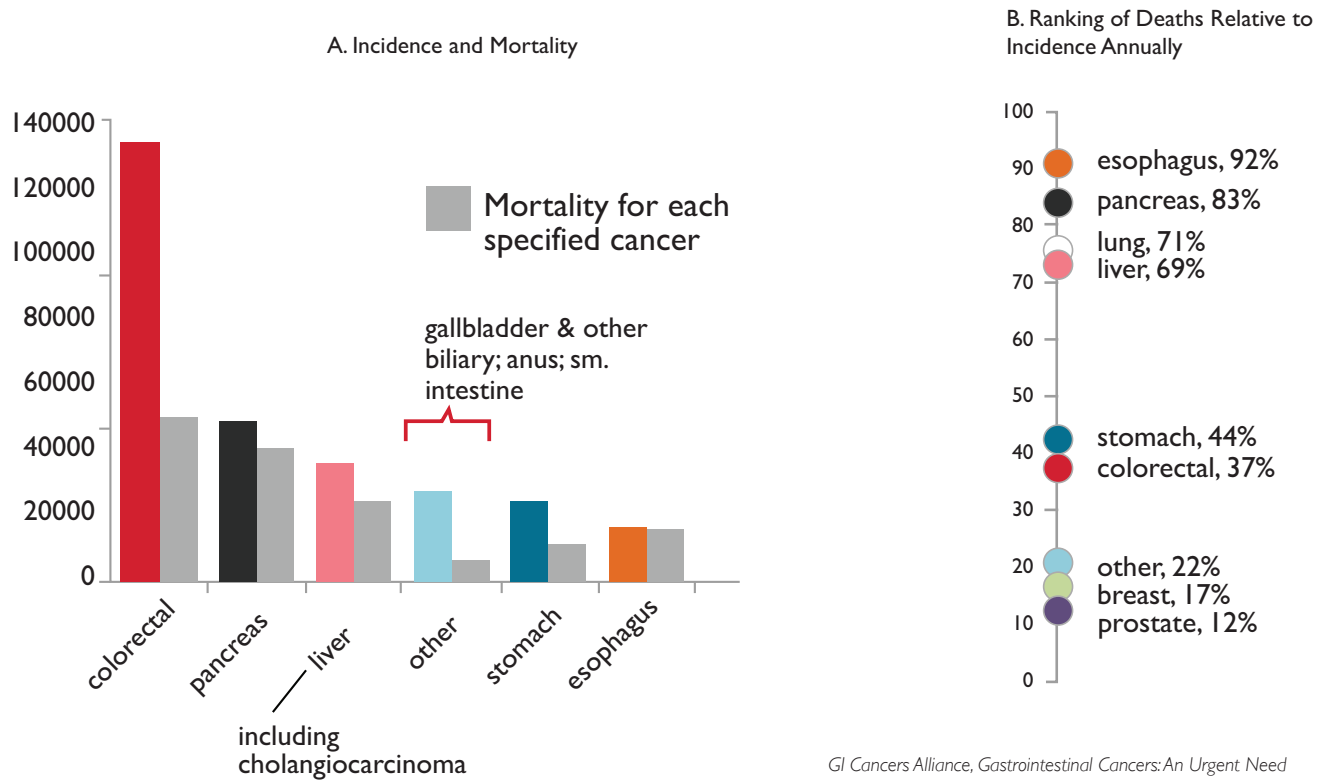


**CIRCULOGENE**

# GASTROINTESTINAL (GI) CANCERS ARE ONE OF THE GREATEST PUBLIC HEALTH ISSUES IN THE US

and worldwide—leading to almost 4.5 million global deaths each year. According to the American Cancer Society (ACS) reported statistics, taken as a whole, gastrointestinal (GI) cancers have the highest incidence and are the second leading cause of cancer death in the United States.

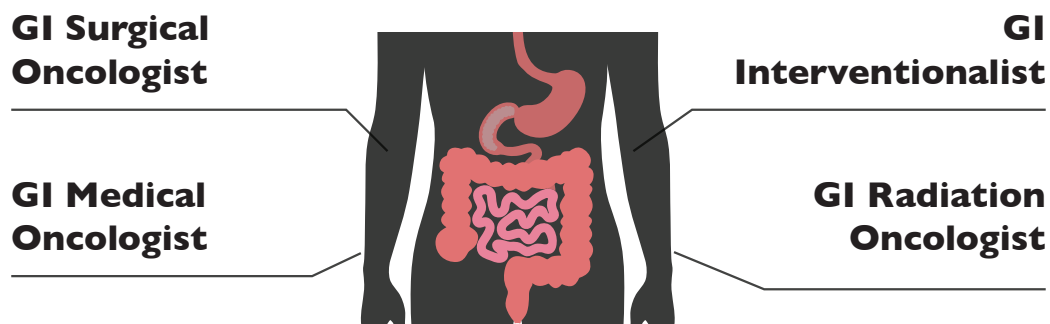
**“Patients with actionable alterations had a significantly longer median overall survival when treated with an appropriately matched therapy than patients with actionable alterations that did not receive matched therapy” -Lancet Oncol 2020**



## THE CIRCULOGENE DIFFERENCE: PROGRAMMATIC APPROACH

“The promise of precision oncology requires the application of biomarker testing to direct appropriate clinical care.” Lancet Oncol 2020

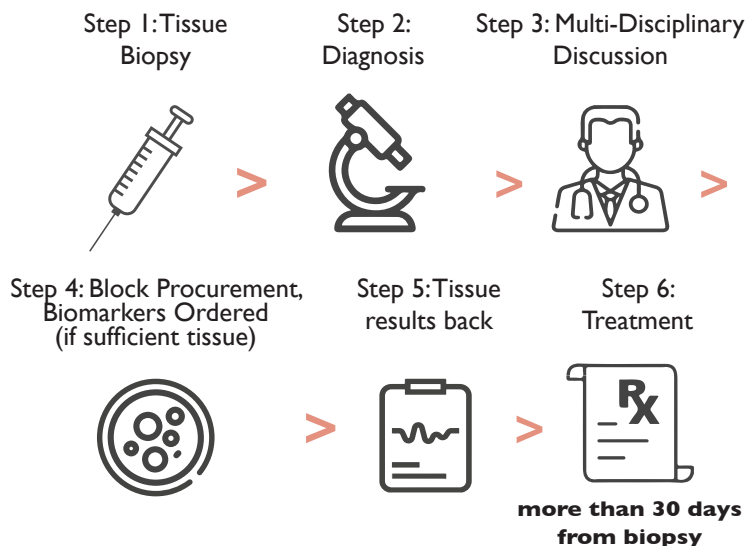
**CIRCULOGENE gives all Four Pillars of Gastrointestinal Care the ability to construct optimal treatment plans for patients in a multi-disciplinary, time-effective approach.**



# THE CHALLENGES WITH TISSUE

For many years, tissue samples have been standard procedure for tumor testing and even for next generation sequencing. However, tissue sampling comes with a series of challenges including time, efficiency, and patient comfort.

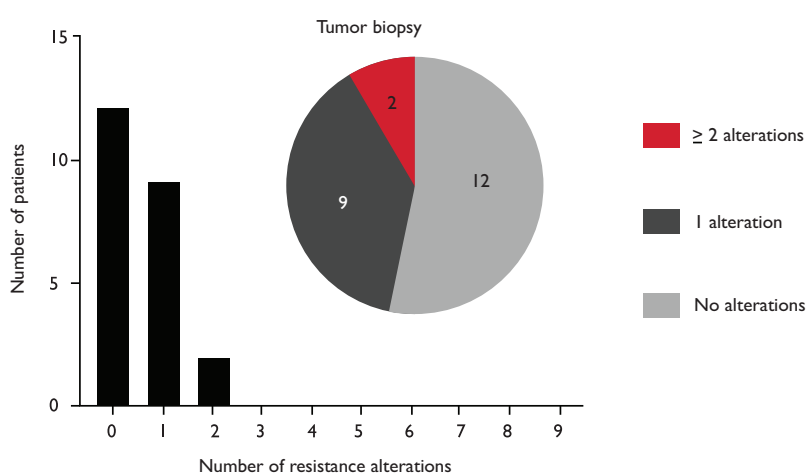
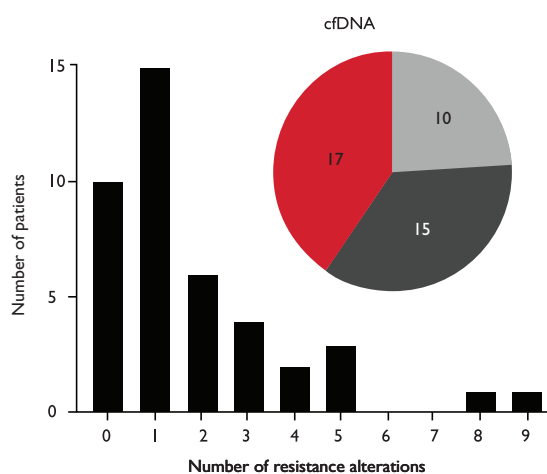
## TISSUE ONLY APPROACH:



“Although liquid biopsies are being tested in a number of cancers, **it is particularly important for patients with gastric cancer because it can be difficult to get enough tissue from the tumor to get all of the genetic testing physicians need for these patients with a tissue biopsy.** When using liquid biopsies, physicians will be provided with an avenue to get that data they may have otherwise not been able to obtain with a tissue biopsy. As liquid biopsies become more widely used, there is the potential to change the kinds of treatments that physicians can offer patients in this setting.”

-Joseph Kim, MD, Chief of Surgical Oncology, University of Kentucky ASCO GI 2020

“Acquired resistance is frequently characterized by profound tumor heterogeneity, and that the emergence of multiple resistance alterations in the individual patient may represent the “rule” rather than the “exception”. **These findings have profound therapeutic implications and highlight potential advantages of cfDNA over tissue biopsy in the setting of acquired resistance.**” -Nature Medicine vol25, sept 2019



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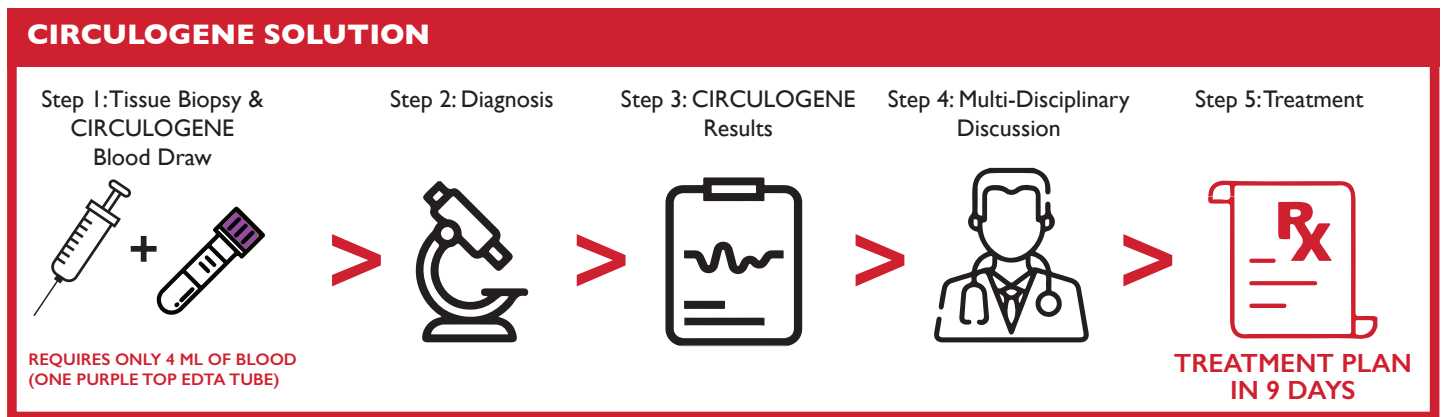
**At CIRCULOGENE our approach characterizes genomic changes to give patients and their treatment teams the most comprehensive information possible in order to make programmatic treatment decisions faster.**

## TIME MATTERS

Every 2.3 minutes there is a newly diagnosed cancer patient, which means time is crucial and time to treatment matters! Patients getting more time with their loved ones matters! **Starting the correct treatment as quickly as possible upon diagnosis improves survival!**

“Are we performing precision medicine testing early enough in a patient’s course to begin therapy in an efficient manner and make an impact on progression free survival? Of those tested, it may have occurred too late in the course of illness to improve outcomes. We are moving to a more systematic evaluation of these patients to capture and respond to these issues.” - GI ASCO 2020, *Journal of Clinical Oncology* 2020

**CIRCULOGENE’s Comprehensive GI Panel is the easiest, most patient friendly decision that can be made at the time of biopsy.**



## COMPLETE BIOMARKER TESTING SOLUTION FOR YOUR PATIENT, BECAUSE IT MATTERS.

“Adherence to guideline recommended biomarker testing would potentially reduce exposure to expensive and ineffective therapies, resulting in improved patient outcomes.” -JCO Precision Oncology 2019

**CIRCULOGENE’s Comprehensive GI Panel includes all of the current NCCN targetable markers as well as all actionable markers and co-mutations so that you can make critical decisions in your patient’s treatment plan.**

### CIRCULOGENE’S COMPREHENSIVE GI PANEL

ABL1	CDK4	FGFR1	JAK3	NPM1	RAD51C
AKT1	CDH1	FGFR2	KDR	NRAS	RAD51D
ALK	CDKN2A	FGFR3	KIT	NTRK FUSIONS (20)	RB1
ALK FUSION	CHEK2	FLT3	KRAS	PALB2	RET
APC	CSF1R	GNA11	MET	PD-L1 EXPRESSION	ROS1 FUSION
ATM	CTNNB1	GNAQ	MLH1	PDGFRA	SMAD4
BMPR1A	EGFR	GNAS	MSH2	PIK3CA	SMARCB1
BRAF	EPCAM	HNF1A	MSH6	PMS2	SMO
BRCA1*	ERBB2	HRAS	MUTYH	POLD1	SRC
BRCA2*	ERBB4	IDH1	MPL	POLE	STK11
BRIP	EZH2	IDH2	MSI	PTEN	TP53
CDH1	FBXW7	JAK2	NOTCH1	PTPN11	VHL

NCCN RECOMMENDED BIOMARKERS FOR GI \*BRCA1 AND BRCA2 INCLUDE BOTH HEREDITARY AND SOMATIC

# WHY CIRCULOGENE

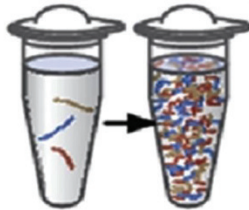
CIRCULOGENE's molecular diagnostics process is based on the discovery that as tumor cells multiply, they also die, releasing their DNA into the bloodstream. CIRCULOGENE's comprehensive tumor DNA sequencing is the only testing available that combines minimal volumes of blood with the most advanced next-generation sequencing (NGS) to monitor tumor-mutant DNA within well-characterized, well-documented, cancer-associated genes.

## CIRCULOGENE'S SOLUTION

At CIRCULOGENE our approach characterizes genomic changes to give patients and their treatment teams the most comprehensive information possible in order to make programmatic treatment decisions faster.

## CIRCULOGENE'S LISA Enrichment Technology

### CIRCULOGENE Liquid *In Situ* Amplification (LISA) Enrichment



- ✓ **97% success rate**
- ✓ **Near-full cfDNA recovery**

### ACCESS

Minimal-volume input with maximal yield. One lavender tube (4mL) for full range of DNA, RNA, and MSI immunotherapy testing.

### ENRICH

Proprietary, direct-on-specimen enrichment technology locates and captures cell-free DNA

### DETECT

Capable of testing more than 50 genes for approximately 3,000 possible mutations

CIRCULOGENE'S Proprietary Enrichment Technology, LISA (Liquid In Situ Amplification), is the **ONLY** technology that bypasses the purification step, which is important because genetic material will not be lost.

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CIRCULOGENE is a Clinical Laboratory Improvement Amendments (CLIA) and College of American Pathologists (CAP) certified laboratory