



City of
Hope®

CITY OF HOPE COLORECTAL CANCER OUTCOME SUMMARY

City of Hope's survival for colorectal cancer exceed the SEER National averages at all stages.



*Based on SEER data
See page 3 for more details

Pairing a State-of-the-Art Colorectal Cancer Treatment Program With Innovative Research Provides Superior Survival Outcomes for Patients



As a National Cancer Institute-designated comprehensive cancer center with a focus on the treatment, research and care of cancer, City of Hope's colorectal cancer (CRC) program provides patients with personalized, comprehensive approaches to their unique treatment paths. We are experts at treating advanced and recurrent disease, and we believe that the best patient care comes from collaboration. It is our multidisciplinary approach, combined with our dedication to advancing cancer care, that results in our superior survival outcomes data

compared to SEER National, making City of Hope the best choice for colorectal treatment.

City of Hope is one of only a few centers in the nation treating CRC at every stage of the disease and has received national recognition as a **high performing hospital for colon cancer surgery** by U.S. News & World Report. For 15 consecutive years, City of Hope has also been recognized by the same outlet as **one of the best cancer hospitals in the nation.**



Comprehensive Care Throughout Southern California

Whether receiving care at our state-of-the-art hospital in Duarte, California, or across our expansive clinical network of more than 35 cancer-focused locations in the Southern California region, patients have seamless access to a broad suite of CRC services. To account for the complex, individual nature of our patients' cases, our CRC program takes a multidisciplinary, collaborative approach to treating colon and rectal cancers. Our team of experts includes:

- Colorectal surgeons and surgical oncologists
- Medical and radiation oncologists
- Gastroenterologists
- Diagnostic radiologists
- Molecular epidemiologists
- Research scientists
- Geneticists and genetic counselors
- Nurse practitioners, nurse and nurse coordinators
- Social workers, psychologists and psychiatrists
- Financial counselors
- Patient navigators
- Social workers

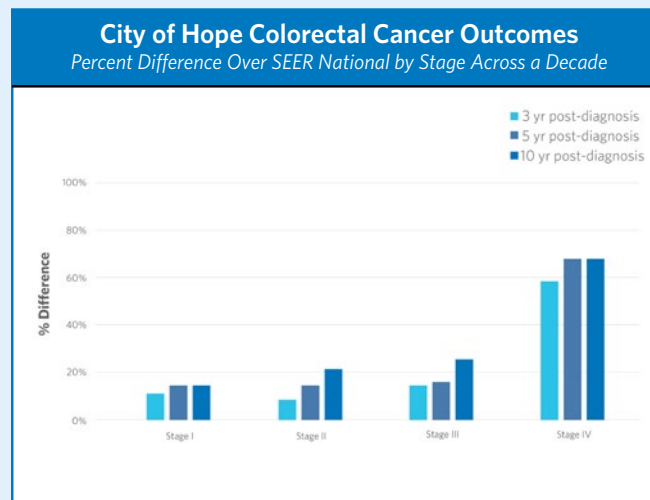
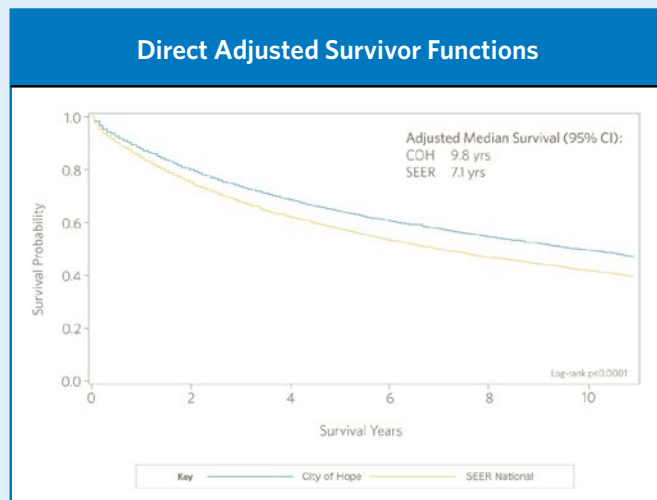
Why We Measure Outcomes

We measure outcomes to assess the quality of care we're providing, to provide information to clinicians about our performance and to offer our patients transparency. Our outcome measurements hold us accountable to our mission of transforming the future of health and eliminating cancer, as well as showing us the areas where we can continue to improve.

City of Hope Surpasses the SEER National Median Survival for Colorectal Cancer at All Stages of Cancer

City of Hope Colorectal Cancer Adjusted* Overall Survival vs SEER National (2007-2016)

City of Hope stage IV survival is 67% greater than the SEER National average five and 10 years postdiagnosis



Proportional hazards regression adjusting for age (75+, 65-74, 55-64, 45-54 vs 14-44), gender (MvsF), race (black, other vs white), and Stage (II/III/IV vs 0/1)

Years from Diagnosis	Unadjusted Overall Survival Probability							
	Stage I		Stage II		Stage III		Stage IV	
	COH	SEER	COH	SEER	COH	SEER	COH	SEER
3	0.95	0.85	0.86	0.79	0.82	0.71	0.40	0.22
5	0.89	0.77	0.77	0.67	0.69	0.59	0.24	0.12
10	0.67	0.58	0.58	0.47	0.54	0.42	0.14	0.07

The unadjusted survival probabilities for City of Hope (COH) CRC patients across all Stages (I, II, III and IV) were compared to the SEER* National data at three, five and 10 years after diagnosis. **The percent difference after five years was ≥14% at all stages of cancer**, with the largest differences seen in Stage IV patients regardless of year (3 years: 58%; 5 years: 67%; 10 years: 67%).

The National Cancer Institute’s Surveillance, Epidemiology and End Results (SEER) Program

An authoritative source on cancer incidence and survival, the SEER Program provides cancer statistics to reduce the cancer burden among the U.S. population. It is supported by the Surveillance Research Program, which provides national leadership in cancer surveillance using analytical tools and methodological expertise in collecting, analyzing, interpreting and disseminating reliable population-based statistics.

*Data were derived from the City of Hope Cancer Registry (CNeXT) and SEER November 2019 Research Data Files as the comparator.

All City of Hope I Duarte patients were diagnosed from 2007 through 2016, and the City of Hope follow-up cutoff date was 12/31/2017, to align with SEER data. Survival time was based on first occurring CRC diagnosis during the time period of interest.

This Is How We Do It

Leading-edge Diagnostic Tools and Groundbreaking Treatment Approaches

Located slightly northeast of Los Angeles in Duarte, California, our 110-acre main campus is equipped with state-of-the-art diagnostic tools, technology and treatment options for CRCs, including colon, rectal and anal cancers at every stage. Our program also treats inflammatory bowel diseases, acute and chronic diverticulitis, pelvic organ prolapse, benign disorders of the anus, hemorrhoids, fissures, fistulas, functional colorectal disorders and incontinence. Our dedicated CRC physicians and surgeons utilize the aforementioned advances to tailor individualized treatment approaches for each patient's individual needs, resulting in successful outcomes.

CRC is one of the most curable cancers, yet research shows tens of millions of people are skipping out on lifesaving screening. At City of Hope we are dedicated to increasing the number of lifesaving screenings for CRC. To support that effort we offer:

- Colonoscopy, stool DNA testing and genetic screening

Our innovative diagnostic and treatment options include:

- Precision surgery based on optimal diagnostics and state-of-the-art technology to safely remove cancer using a minimally invasive approach — this ensures the highest possible chance of curing and preserving natural bowel function
- Sacral nerve stimulation (Interstim)
- A precision oncology tumor board that systematically screens malignancies, leading to referrals for targeted therapies to rare genomic alterations such as HER-2, MSI, BRAF-V600E and KRAS G12C
- City of Hope's Division of Clinical Cancer Genomics *Cancer Screening & Prevention Program*SM also offers a comprehensive cancer risk assessment to determine a patient's risk of carrying a mutation that predisposes them to cancer.
- A selective "watch and wait" approach without surgery for suitable rectal cancer patients who show a complete tumor disappearance after routine chemoradiation alone
- Immunotherapies and advanced radiation treatment options

Next-generation approaches to surgery

City of Hope's approach to treating CRC is focused on combining precision surgery and precision medicine. That means we apply precise and minimally invasive surgical techniques — and test individual cancer cells to find drug combinations that would work best for a patient's specific cancer.

Advantages of robotic surgery

- City of Hope surgeons use robotic surgery to optimize the precision of cancer resections and reduce patients' postsurgical pain, hospital stays and potential risk of future hernias
- Three-dimensional cameras allow for visual clarity, and the robotic arms allow for unparalleled surgical precision, most of which can be performed internally through small incisions.

Advances in chemotherapy

- Advances in chemotherapy and targeted therapies at City of Hope are allowing patients with advanced disease to get combinations of drugs to shrink tumors, making it easier to take them out later with surgery and reducing the risk of postoperative recurrence.

Hepatic Arterial Infusion (HAI)

- The liver is the most common site of spread of colon and rectal cancers. Patients with isolate spread to the liver can be potentially cured with liver surgery.
- To improve cure rates and survival, it is important to obtain a complete resection of colorectal liver spreads and to prevent the recurrence of disease in the postoperative settings.
- HAI therapy takes advantage of the dual blood supply to the liver through the hepatic artery and the portal vein. Since CRC metastases derive their blood supply predominantly from the hepatic artery, direct infusion of chemotherapy through the hepatic artery via a hepatic arterial pump augments the concentration of chemotherapy within liver tumors and results in major shrinkage and tumor kill.
- HAI of chemotherapy has been shown to decrease recurrence of colon cancer in the liver after resecting liver metastases, therefore improving the chances of 10-year survival and cure in patients who progressed on standard therapy. This increases the likelihood of subsequent tumor resection or control and improving longevity.

Continuing Our Commitment to Novel Discoveries



City of Hope is home to the first of five Beckman Research Institutes — renowned for driving scientific advances — and, unlike other cancer centers, has three certified good manufacturing practice (GMP) facilities on-site at our main campus location. The GMP facilities enable us to conduct translational research that blends the best of academics and medical care within a biotechnology environment. We refer to this setup as a biotechnology hybrid model, and it's designed to speed discoveries to patients by fast-tracking the commercialization of potentially life-changing new therapies.

As a leader in research and innovation, City of Hope scientists, clinical staff and manufacturing specialists work side-by-side so advances in treatment can travel from laboratory to patient with lifesaving speed. Home to more than 1,000 research investigators and 87 active investigational new drugs, our experts conduct nearly 1,000 clinical trials annually, enrolling 1 in 4 patients.

Patients at City of Hope have access to leading-edge clinical trials, and experimental treatments that are open to candidates at all stages of CRC.

Some of our most current CRC clinical trials include:

- A Phase 1b/2 study evaluating ERAS-007, a best-in-class ERK1/2 inhibitor, in combination with other cancer therapies in study participants with gastrointestinal malignancies
- An open-label, exploratory study evaluating the safety and efficacy of targeted therapies or immunotherapy as single agents or combinations, in participants with metastatic colorectal cancer whose tumors are biomarker positive as per treatment arm-specific definition
- A Phase 1 study examining the safety and tolerability of PF-07062119, a bispecific antibody designed to attach to the surface of cancer cells and T cells at the same time, in patients with selected advanced or metastatic gastrointestinal tumors
- A Phase 1b/2 open-label study evaluating the anti-tumor activity and safety of etrumadenant (AB928), a dual adenosine receptor antagonist, treatment combinations in participants with metastatic colorectal cancer

For more information on a specific clinical trial or to enroll, please visit [CityofHope.org/clinicaltrials](https://www.cityofhope.org/clinicaltrials) or call 626-218-1133.

Meet Our Colorectal Cancer Experts

COLORECTAL
SURGERY



ANDREAS M. KAISER, M.D.
Professor and Chief,
Division of Colorectal Surgery

COLORECTAL
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**KURT A. MELSTROM,
M.D., M.S.**
Associate Clinical Professor

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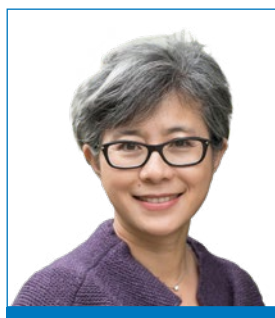
MARK HANNA, M.D.
Assistant Clinical Professor

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**STEPHEN M. SENTOVICH,
M.D., M.B.A.**
Clinical Professor

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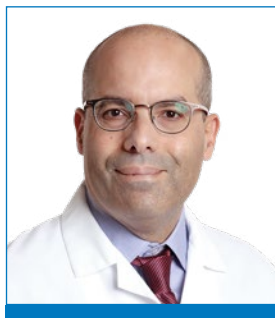
LILY L. LAI, M.D.
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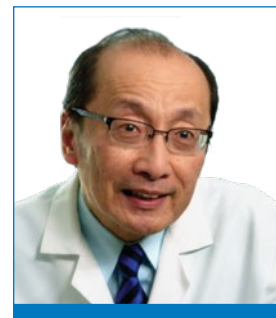
I. BENJAMIN PAZ, M.D.
Clinical Professor

MEDICAL
ONCOLOGY



MARWAN G. FAKIH, M.D.
Professor and the Judy &
Bernard Briskin Distinguished
Director of Clinical Research

MEDICAL
ONCOLOGY



DEAN W. LIM, M.D.
Professor

MEDICAL
ONCOLOGY



**AFSANEH BARZI,
M.D., PH.D.**
Associate Professor

RADIATION
ONCOLOGY



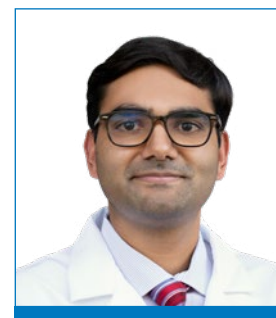
YI-JEN CHEN, M.D., PH.D.
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GASTROENTEROLOGY



JAMES L. LIN, M.D.
Associate Clinical Professor and
Chief, Division of Gastroenterology

GASTROENTEROLOGY



TRILOKESH KIDAMBI, M.D.
Assistant Clinical Professor and
Director, Colon Cancer Screening
Program

Compassionate Care That Supports Patients Throughout Treatment and Recovery



City of Hope's Cancer Survivorship Program empowers CRC survivors and helps them regain control, after cancer. We strive to make patients' lives whole again, which is why we provide a number of support programs for patients and their families to access before treatment, through remission and beyond.

In addition to a personalized Survivorship Care Plan, participants also receive:

- Clinical follow-up care every six months for the first two years and then annually
- Surveillance for recurrence and second cancers
- Monitoring and management of long-term side effects
- Cardiovascular and bone health screening
- Specialized Survivorship Pain Clinic
- Lymphedema prevention and management
- Health and wellness education
- Access to a survivorship group
- Psychosocial, spiritual and practical support
- Integrative medicine such as yoga, acupuncture, meditation and massage therapy

For a complete listing of supportive care offered in addition to our Survivorship Program, visit our Supportive Care Medicine website at [CityofHope.org/supportive-care-medicine](https://www.cityofhope.org/supportive-care-medicine). Personalized assistance may be requested by contacting the Sheri and Les Biller Patient and Family Resource Center at **626-218-2273**.

About City of Hope



Founded in 1913, City of Hope is an independent biomedical research and treatment center for cancer, diabetes and other life-threatening diseases. As a world leader in cellular immunotherapies, including chimeric antigen receptor (CAR) T cell therapy, we are one of the few institutions in the nation that innovates CAR T cell technology through our research and clinical trials, in addition to collaborations with other academic research institutions and global biopharmaceutical companies.

City of Hope is also a global pioneer in stem cell transplantation innovation, having performed over 17,000 transplants to date with exceptional survival rates, according to the Center for International Blood & Marrow Transplant Research. Human synthetic insulin, monoclonal antibodies and numerous breakthrough cancer drugs are based on technology developed at our institution.

A National Cancer Institute-designated comprehensive cancer center and a founding member of the National Comprehensive Cancer Network, City of Hope is ranked among the nation's "Best Hospitals" in cancer by U.S. News & World Report for 15 consecutive years and received Magnet® recognition from the American Nurses Credentialing Center. Our main campus is located near Los Angeles, with additional locations throughout Southern California and in Arizona.

To find out more about City of Hope's colorectal cancer program, visit CityofHope.org/colorectal-cancer

To begin the referral process for your patients with colorectal cancer:

- Call **800-COH-4DRS (264-4377)**, Monday through Friday, 8 a.m. to 6 p.m., to speak with a patient referral specialist.
- Fax a referral request letter with a patient face sheet to **626-301-8432**.
- Complete an online referral request form at **CityofHope.org/refer-a-patient**.
- Visit **clinicaltrials.coh.org** or call **626-218-1133** to see if one of our clinical trials holds promise for your patients.

Epic CareLink is City of Hope's referring physician online portal.

You can use EpicCare to request patients' lab orders, as well as view lab results, visit summaries, medications, procedures, allergies and most other clinical documentation in the patient's chart. You can also upload relevant patient level documents to be reviewed by the City of Hope administrative team for inclusion in the patient's City of Hope chart.

Request your Epic CareLink account at **carelink.CityofHope.org**.



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