

CITY OF HOPE
COLORECTAL
CANCER
OUTCOME
SUMMARY

City of Hope's median survival surpasses
SEER LA in Stages I-IV Colorectal Cancer *



The colorectal cancer program: providing optimal outcomes for patients



At City of Hope, our colorectal cancer program offers a comprehensive approach and customized care for our colorectal cancer patients. We are experts at treating advanced and recurrent disease, and we believe that the best patient care comes from collaboration. When your patient arrives at City of Hope, our multidisciplinary team

becomes your partner in seeking optimal outcomes. It is our multidisciplinary approach, combined with our dedication to advancing cancer care, that results in our superior survival outcomes data compared to SEER LA, making City of Hope the best choice for colorectal treatment in the region.

Providing a comprehensive team of health care professionals in one central place

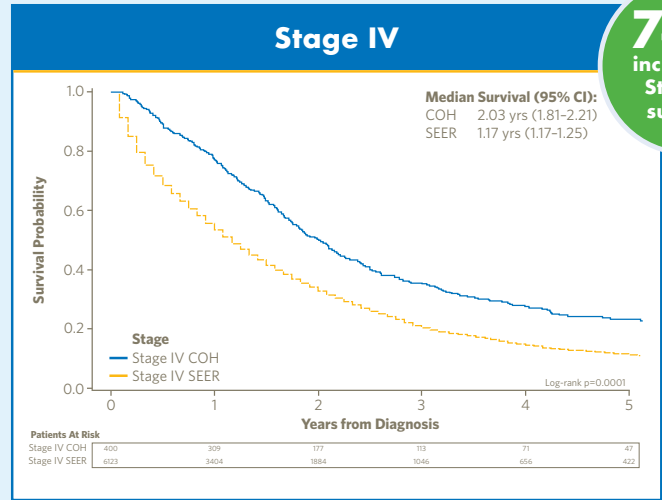
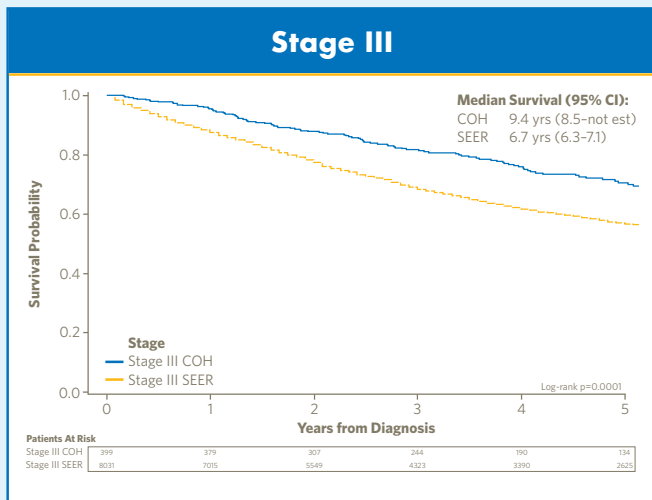
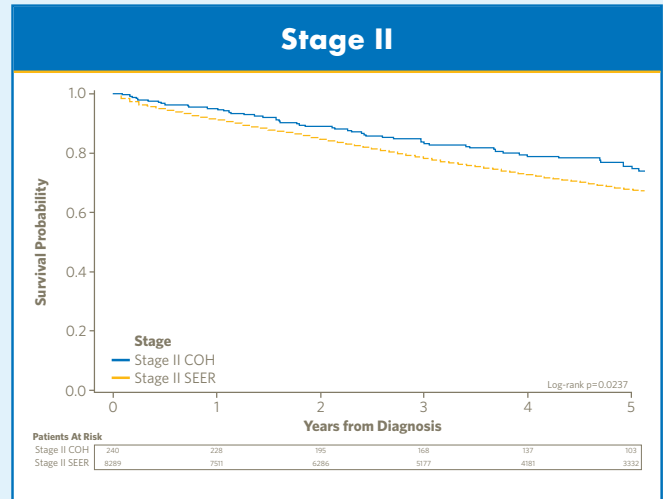
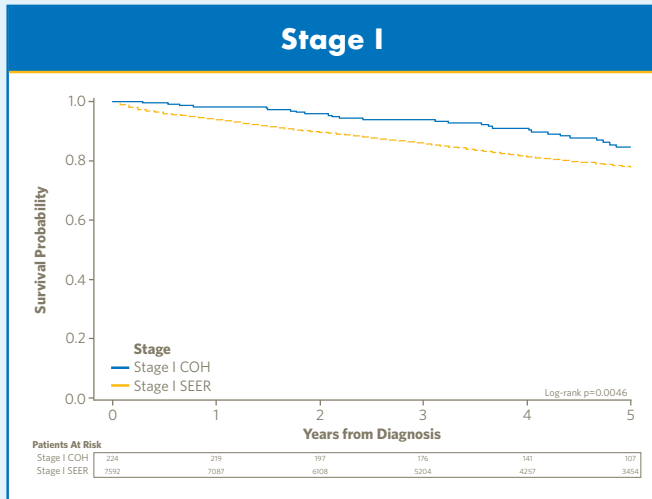
The proximity of our broad interdisciplinary team makes collaboration and access convenient for clinicians and patients. Our colorectal cancer program staff includes:

- Colon and rectal surgeons
- Surgical oncologists
- Medical oncologists
- Radiation oncologists
- Gastroenterologists
- Diagnostic radiologists
- Psychologists
- Psychiatrists
- Nurses
- Social workers

Why We Measure Outcomes

We measure outcomes to challenge ourselves to continually improve quality of care, give clinicians a measure of our performance, demonstrate value to payers and give patients confidence.

City of Hope surpasses SEER LA colorectal cancer survival rates at all stages (Stages I-IV)



74%
increase in
Stage IV
survival

Data were derived from the City of Hope Cancer Registry (CNeXT) and SEER November 2015 Disease Specific Data Files, with the Los Angeles Registry as the comparator. All patients were diagnosed from 2003 to 2012, and the City of Hope follow-up cutoff date was 12/31/2012, to align with SEER data.

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.

This Is How We Do It

Utilizing groundbreaking treatments to achieve superior outcomes for colorectal cancer patients

Chemotherapy delivered directly to the tumor site via Hepatic Arterial Infusion (HAI) therapy

- The liver is the most common site of spread for colon and rectal cancers. 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 is a small pump implanted under the skin in the lower abdomen with a catheter placed into the hepatic artery; the pump can be filled on an outpatient basis, as chemotherapy is needed
- 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

Hyperthermic intraoperative peritoneal chemotherapy or (HIPEC)

- When advanced colorectal cancer spreads to the inner body cavity, treatment can become difficult. With HIPEC, instead of infusing medications through a vein, heated chemotherapy is circulated in the abdominal cavity at the time of surgery. This alternative method of delivery results in a more effective strategy for attacking microscopic residual disease following debulking, therefore reducing the risk of recurrence following surgery
- Surgery aims to complete debulking of all visible disease and is followed by HIPEC to address the minimal residual cancer
- City of Hope's HIPEC center is one of the most experienced in Southern California

Clinical Cancer Genetics, Cancer Screening and Prevention ProgramSM

- Although hereditary colorectal cancer accounts for less than 5 percent of colorectal cancers, City of Hope's Division of Clinical Cancer Genomics Cancer Screening & Prevention ProgramSM offers a comprehensive cancer risk assessment to determine a patient's risk of carrying a mutation that predisposes them to cancer



- If a mutation is suspected, genetic counselors explain the risks and benefits of genetic testing, recommend strategies to lower the risk of developing cancer, and explain the implications of results to the patient and their family

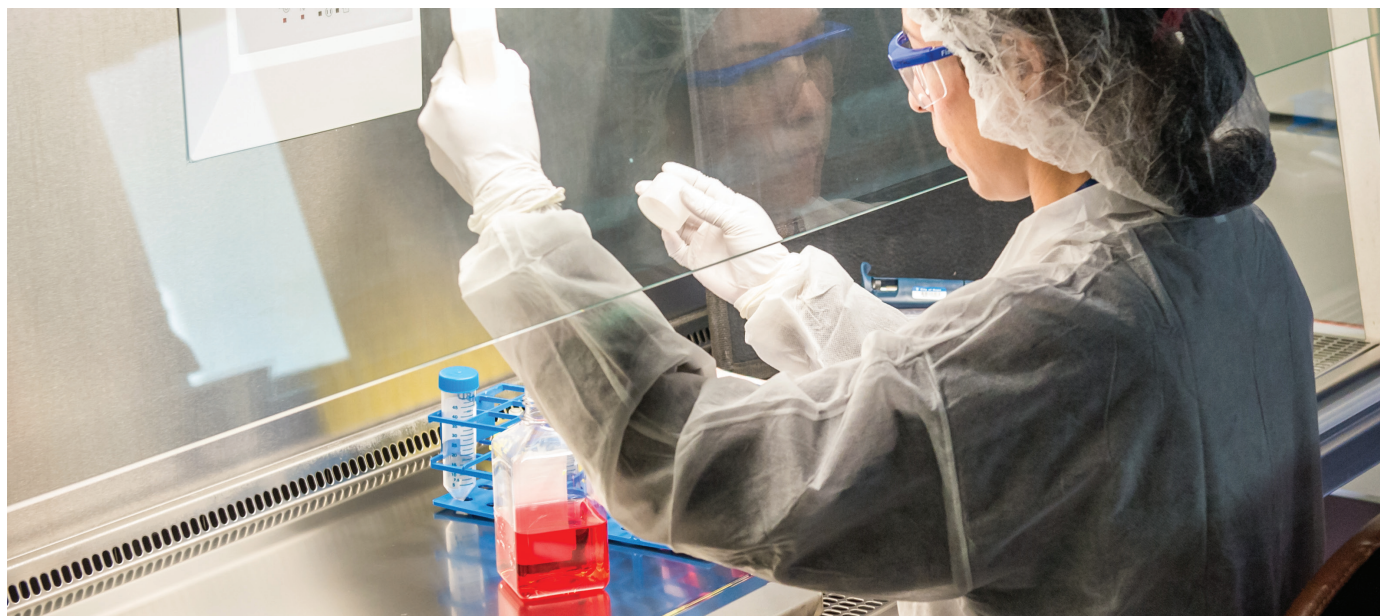
Innovative Surgery Techniques

- Our expert team of surgeons developed innovative laparoscopic and robotic minimally invasive surgery techniques, providing more precise access to areas of investigation and resulting in less pain and quicker patient recovery

Watch and Wait Approach

- City of Hope offers a non-surgical, rectum-saving approach called "watch and wait." After the diagnosis of rectal cancer is determined, patients are treated with radiation and chemotherapy. Following this treatment, patients are re-evaluated with endoscopy and radiographic scanning. Those patients whose tumors have disappeared and have completely responded to the radiation and chemotherapy have the option to avoid surgery, colostomy and all the potential complications associated with surgery.

Providing innovative, onsite and ongoing research and clinical trials



City of Hope has a “bench to bedside” approach that is unlike any other cancer center. Working in a unique multidisciplinary environment, City of Hope physicians and scientists at Beckman Research Institute of City of Hope focus on research examining the biomedical mechanisms of cancer, the development of innovative new therapies, analysis of those treatments via clinical trials and the delivery of best-practice patient care and support. In a given year, City of Hope conducts more than 500 clinical trials, enrolling nearly 6,000 patients. Our colorectal cancer program is conducting more than 15 colorectal cancer clinical trials in collaboration with numerous pharmaceutical companies and the National Cancer Institute to offer patients novel personalized therapeutic agents.

Our current colorectal cancer (CRC) investigations include:

- The effect of several monoclonal antibodies on CRCs harboring HER-2 mutations
- Studies for HER-2 mutations: Targeted therapies towards HER-2 have been recently associated with significant tumor shrinkage and improved longevity. City of Hope is conducting several studies that incorporate agents targeting HER-2 in this select population
- Studies for BRAF-mutations: City of Hope offers studies specifically targeted towards BRAF mutations (BEACON trial). Preliminary data from this study confirm early evidence of efficacy with a good safety profile
- Studies for RAS mutations: City of Hope is conducting studies that target the RAS pathway through the combination of targeted agents with or without chemotherapy
- Combinations of radiation therapy and immunotherapy to augment tumor immune response
- New generation anti-angiogenesis agents (agents that target tumor blood vessels) in combination with chemotherapy in the patient who progressed on their first-line chemotherapy
- Several immunotherapy studies, with or without combination chemotherapy, in the first, second line and refractory treatment settings

Our customized *Survivorship Program* — helping patients improve their quality of life



At City of Hope we strive to **“maximize the wellness for all people affected by cancer.”** This includes not only patient survivors, from the time of diagnosis throughout the balance of their life, but also their family and caregivers.

Our Survivorship Program, a long-term follow-up program, helps patients deal with the long-term complications of treatment and focus on novel approaches to improve long-term quality of life. We offer specialized patient follow-up care and education in a clinical research setting. By participating in research, our patients help us learn more about issues facing cancer survivors and provide opportunities to continually improve survivorship care for our patients and for the medical community at large.

Our Survivorship Program provides short- and long-term follow-up with patients and their families to:

- Immediately address postsurgical complications
- Manage toxicities
- Assist in early detection of recurrence
- Provide psychosocial support
- Identify other areas where intervention may be needed

“

It’s unusual that patients need a colostomy bag. Minimally invasive surgery allows patients to go home sooner, they are in less pain, and they recover and get back to their lives more quickly. ”

— Stephen M. Sentovich, M.D., M.B.A.

Meet the leaders of our colorectal cancer program



Stephen M. Sentovich, M.D., M.B.A.

- Colorectal surgeon
- Chief of the Section of Colon and Rectal Surgery
- Clinical Professor of the Division of Surgical Oncology and Department of Surgery



Marwan G. Fakih, M.D.

- Medical oncologist
- Co-director of the Gastrointestinal Oncology Program
- Professor in the Department of Medical Oncology & Therapeutics Research

“

The first thing I do is to educate the patient about their disease. It's important for patients to understand what challenges will be ahead and how to address these challenges.

”

— Marwan G. Fakih, M.D.

About City of Hope



City of Hope is a leading research, treatment, and education center with a multidisciplinary, interactive approach to developing and testing new therapies, while delivering holistic care to patients and their families. With a 104-year legacy, we are achieving superior outcomes by bringing together the best and the brightest clinicians and medical researchers who possess vision, passion, integrity, state-of-the-art knowledge and compassion. We provide these dedicated experts with an environment where interdisciplinary collaboration is an expected constant, and where together they can provide the best, most appropriate interventions for each patient.

Designated one of only 49 comprehensive cancer centers, the highest recognition bestowed by the National Cancer Institute, City of Hope is also a founding member of the National Comprehensive Cancer Network, with research and treatment protocols that advance cancer care throughout the world.

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

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

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



1500 East Duarte Road, Duarte, CA 91010

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