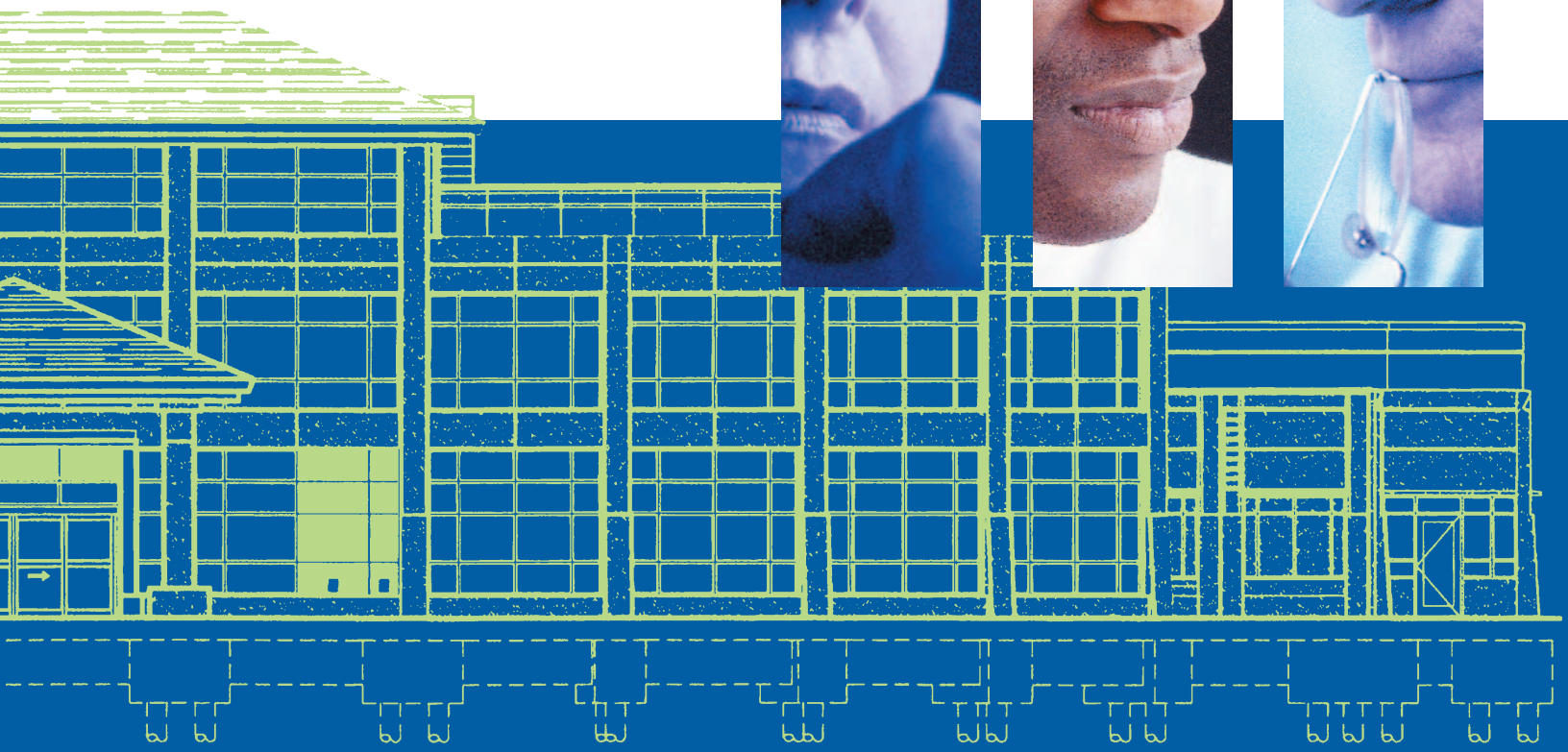
2005 Annual Review of Cancer Services



RIVERSIDE HEALTH SYSTEM

Mission

WHY WE ARE HERE

To improve the health and well being of the people in the communities where we provide care.

Vision

WHAT WE ASPIRE TO BE

Riverside will be where people turn when they need compassionate care, leading edge technology, and the service and support they deserve.

Values

WHAT WE BELIEVE IN, WHAT WE STAND FOR

We believe in the ability of healthcare to make a difference in the lives of others and we believe in the people who make that difference.

RIVERSIDE

Improving Health and Saving Lives

Published by Riverside Cancer Services

Riverside Regional Medical Center

500 J. Clyde Morris Boulevard * Newport News, VA 23601

Cancer Registry 594-3054

Oncology Committee Members 2004

Elizabeth Harden, MD, Chair .....Medical Oncology
Richard A. Hoefer, DO, ACoS Liaison .....Surgical Oncology
John Q. A. Mattern, DO.....Medical Oncology
Bruce Booth.....Medical Oncology
John Kessler, MD .....Medical Oncology
Joseph D. Layser, MD.....Radiation Oncology
James A. Wassum, MD .....Radiation Oncology
Curtis Stoldt, DO.....Radiology
Steven Falen, Ph.D., MD .....Radiology
Carl Lindemann, MD.....Family Practice
John C. Maddox, MD.....Pathology
Christina Marcuson, MD.....Dermatology
Henry Prillaman, MD..... Urology
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Susan Falen.....Service Line Director, Oncology
Beverly Voglewede, RTRT .....Director, Radiation Oncology Services
Paula Burcher, RT-R(M) .....Administrative Director, Radiology
Doug Watson, M.Div., D.Min., BCC, ACPE Supervisor.....Pastoral Care
Ora Mae Jackson, RN, OCN .....Protocol Manager
Yvonne Pike, M.Ed.....Hem/Oncology Care Coordinator
Kendra Cooper, RN, BSN .....Performance Improvement
Nancy Grant, RN, BSN, OCN .....Nurse Manager, 5 West
Pat Emerson, RN, BSN, OCN .....Hem/Onc Clinical Coordinator
Sharron Nichols, RN .....Nurse Manager, Riverside Hospice
Ann Tatterson, RN .....Director, Riverside Hospice Agencies
Michelle Wooten, RN, BSN, MSA .....Dir. Med/Surg. Svcs/Oncology Services
Jackie Ward, RN, MSN, PACNP .....Staff Development
Paige Williams, RD.....Dietary
Fran Holcomb, RN, BSN, OCN .....Cancer Education/Outreach
Brad Kirby, MPH, CTR.....Cancer Registry Supervisor
Pauline Shofner .....Cancer Registry
Carol Richards, CTR.....Cancer Registry
Kathie Waters, RN.....Home Health
Valerie Burge-Hall..... ..American Cancer Society

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For additional information regarding Riverside Cancer Services, please call (800) 520-7006.

For comments or questions regarding this Annual Report or the Cancer Registry, please call (757) 594-3054

The 2005 Cancer Services Annual Report

These are exciting times for the Cancer Program at Riverside Regional Medical Center. This annual report summarizes the Cancer Program and gives an accurate view of the multi-disciplinary approach used to diagnose and treat patients with cancer at Riverside Regional Medical Center. In this edition, there is a description of Oncology-related services provided to patients here at Riverside, and a statistical analysis of the cases we have seen this year. In addition, there are articles on our experience with colorectal cancer and prostate cancer from experienced physicians who are involved in the treatment of these malignancies on a daily basis.

We continue to look forward to providing the highest quality cancer care to our patients at Riverside, today, and into the future.

MARK E. ELLIS, M.D.
Medical Director of Oncology Services
Riverside Health System
December 2005

Riverside Cancer Services

500 J. Clyde Morris Blvd., Newport News

Mission Statement

It is our mission to provide the highest quality health care information, treatment and social support to those families in Southeastern Virginia who encounter Cancer.

To ensure continuity and growth, we will fulfill this mission in an economically responsible manner.

If, in any case we are unable to provide appropriate support for a patient, family, or physician, we will enthusiastically aid in the search for that support.

AMERICAN COLLEGE OF SURGEONS ACCREDITATION

The goal of the ACoS program is to decrease morbidity and mortality of the cancer patient. The general strategy is to encourage qualified hospitals to improve cancer control through cancer-related programs. The ACoS is continually refining the standards for approval to reflect the changes taking place in today's health care environment.

Approval of a program by the ACoS demonstrates that the necessary elements are in place and functioning at a level consistent with predetermined quality control standards. Those essential components include: 1) state-of-the-art clinical services; 2) a multidisciplinary cancer committee; 3) a cancer registry to monitor the quality of care; 4) patient-oriented case conferences; and 5) a quality improvement program for improving patient outcomes.

Riverside Regional Medical Center and the entire Riverside Health System are dedicated to maintaining a Community Hospital Comprehensive Cancer Program. The Riverside Cancer Program has been approved at this level by the ACoS since 1982 and obtained a 3-year approval in December 2003. This level of accreditation requires a full range of diagnostic and treatment services, AJCC staging, clinical research, oncology nursing, pain management, rehabilitation, support services, and prevention/early detection programs.

Bradley W. Kirby, MPH, CTR – Cancer Registry Supervisor (757) 594-3054

ONCOLOGY COMMITTEE

Riverside Regional Medical Center has an Oncology Committee for the purpose of providing superior care to patients with cancer. It is a multidisciplinary committee comprised of medical staff and representatives from each of the departments involved with the care of cancer patients. The committee convenes every other month and provides leadership and professional guidance for the Riverside Cancer Program. The focus of this committee is to: develop annual goals and objectives for programs related to cancer, promote an organized approach to patient management, oversee weekly consultative Cancer Conferences (Tumor Boards), review patient care evaluation studies, oversee Performance Improvement activities, supervise the Cancer Registry to ensure accuracy, and to provide leadership for community screening and education programs.

In 2004, the committee met six times and reviewed reports from the American Cancer Society, Cancer Registry, Radiation Oncology, Inpatient Oncology Service, Oncology Staff Education, Cancer Services, Hospice, Oncology Care Management, Cancer Education/Outreach, the Oncology Service Line and the Riverside Diagnostic and Breast Imaging Center. Other cancer care related activities were announced or reviewed as appropriate.

Bradley W. Kirby, MPH, CTR – Cancer Registry Supervisor (757) 594-3054

CANCER REGISTRY

500 J. Clyde Morris Blvd., Newport News

The Riverside Cancer Registry is an integral part of the hospital cancer program and is a requirement for approval of a cancer program by the American College of Surgeons (ACoS). This registry is a data collection system designed for the collection, management, analysis, and dissemination of data on cancer cases diagnosed and/or treated at Riverside Regional Medical Center. Riverside's registry has been active since 1979.

The goal of the Registry is to provide data that supports the appraisal of the results of diagnostic and therapeutic effects at Riverside Regional Medical Center (RRMC). The data maintained by the Registry is available for use by the medical staff and

administration. To provide surveillance and meaningful reporting, each case is followed and updated annually.

Data from this registry is reported to the Virginia Cancer Registry and the National Cancer Data Base (NCDB). The NCDB serves as a comprehensive clinical surveillance resource for cancer care in the United States and contains oncology outcomes for 1,438 hospitals in 50 states. The purpose of this database is to improve the quality of cancer care by providing physicians, cancer registrars, and others with a comparison of their cancer care management to the care of other facilities throughout the nation.

The Riverside Cancer Registry now includes a database of 27,515 cases and 1,138 cases were added to the Registry in 2004. This Annual Report contains a review of 2004 accessions (new cases), as well as site-specific reports on colorectal cancer and prostate cancer.

Carol Richards, CTR – Certified Tumor Registrar
(757) 594-3054

Staff Education

CANCER CASE CONFERENCE (TUMOR BOARD)

500 J. Clyde Morris Blvd., Newport News

Cancer Case Conferences are a major educational element in the Riverside Cancer Program and are a requirement for accreditation by the American College of Surgeons (ACoS).

Patient-oriented Cancer Case Conferences (Tumor Boards) are held weekly for discussion of the most appropriate management of cancer patients. This conference consists of a multi-disciplinary team of physicians and ancillary staff members whose primary goal is to educate and improve cancer care at Riverside Regional Medical Center. The conference provides prospective case review and assures the patient access to consultative services that include pre-treatment evaluation, staging, and treatment recommendations. The managing physician and the patient make all final treatment decisions. During 2004, 52 Tumor Boards were held with 197 individual cases studied and discussed.

Pauline C. Shofner – Tumor Registrar
(757) 594-3054

DIDATIC LECTURES

Didactic lectures were held during 2004 featuring guest speakers from a variety of medical centers and universities. Speakers were invited through the Medical Education Department, often based on direct requests from members of the Riverside medical staff.

FEBRUARY
"Advanced Stage Cervical Cancer"

MAY
"Clinical Pathology Conference: Pelvic Masses"

AUGUST
"Lumps and Bumps: When Are They Skin Cancer?"

SEPTEMBER
"Clinical Pathology Conference: Epigastric Masses"

NOVEMBER
"Clinical Pathology Conference: Multinodular Pulmonary Infiltrates"

DECEMBER
"Diagnosis and Management of the Prostate"

Cindy Hogge, - Manager, Medical Education
(757) 594-2170

STAFF DEVELOPMENT

500 J. Clyde Morris Blvd., Newport News

Staff Development provides educational programs and workshops to assist the healthcare professional attain and maintain competence and expertise in oncology. Oncology education includes chemotherapy certification, clinical skills, and oncology updates focusing on current and projected medical and surgical cancer treatment.

Staff Development is committed to providing the highest quality education to assist healthcare professionals in achieving and maintaining the knowledge and expertise to provide the highest quality care to the population with oncology conditions.

Guidelines for patient/family education are available to encourage patient teaching across the continuum of cancer care services. Additionally, the patient education television channel, offers oncological-related topics, and is available to patients at Riverside Regional Medical Center for viewing in their rooms.

Jackie Ward, RN, MSN, PACNP – Staff Development

Patient Care Services

HOSPICE

12420 Warwick Blvd., Newport News

Riverside Hospice affirms life and regards dying as a natural process. The hospice program exists to provide support and care for persons, their families and caregivers in the last phases of incurable disease so the patient might live as fully and comfortably as possible. Hospice services neither hasten nor postpone death.

The goal of hospice care is to achieve the best possible quality of life through relief of suffering, control of symptoms, and restoration of functional capacity. Palliative treatment for pain and symptom management includes a wide variety of therapies and treatments as agreed upon by the interdisciplinary team. Routine hospice care is delivered in a variety of settings to include: patients' homes, assisted living facilities, and nursing homes. Respite and acute pain and symptom management may be delivered by hospice in acute care settings or skilled nursing facilities. During care and follow-up services Riverside Hospice remains sensitive to personal, cultural and religious values, beliefs and practices.

The concepts utilized by Riverside Hospice to provide effective care are: the interdisciplinary team approach, treatment of the patient and family as a unit of care, physician supervision, comprehensive care (ensuring continuity between settings), symptom management, spiritual and psychosocial support, provision of durable medical equipment and medication related to pain and symptom management, provision of on-call services twenty-four hours a day seven days a week, utilization of volunteers, bereavement counseling for at least one year after patient's death and staff training and support.

In 2004, Riverside Hospice Program admitted 303 patients and their families; 309 families and caregivers participated in the bereavement program. Volunteers donated many hours of service to hospice patient care.

Riverside Hospice actively participates in community sponsored educational programs through community talks, seminars, and volunteer training programs.

Riverside Hospice, a nonprofit organization, is CHAP-accredited, state licensed, Medicare and Medicaid certified, and works with many third party payers. In addition, Riverside Hospice is a member of the NHPCO, NAHC, and VAH.

Ann Tatterson, RN – Director, Hospice
Sharron Nichols, RN--Nurse Manager, Hospice
(757) 594-2745

HOME CARE

856 J. Clyde Morris Boulevard, Suite C
Newport News

Riverside Home Care provides a variety of services to patients on the Peninsula, Middle Peninsula, and Northern Neck including Home Health, Infusion and Pharmacy, and Hospice. The health care professionals that make up the Home Care Division are dedicated to providing high quality services and work closely with the patient's physician to plan and deliver the most effective and individualized care possible. Admission begins with a referral from the physician and a visit from a registered nurse or physical or speech therapist to identify needs, establish goals for treatment, and begin planning for continued care when home care services are no longer needed.

Home care is a valuable service for many different kinds of patients and can be especially helpful to those with cancer. The home health team can assist patients with nursing and therapy needs, nutritional and pain management issues, activities of daily living, and in locating community resources as appropriate. Home health patients have the assurance of a nurse on call 24 hours a day, 7 days a week.

When a cure is no longer possible and treatment shifts from a curative approach to a quality of life approach, hospice care is available to meet end of life needs. The hospice team works with patients and their families and caregivers to address the physical, emotional, and spiritual needs associated with a terminal illness. Patients with a life expectancy of six months or less are eligible for services and all care is guided by the patient's

own physician and the Hospice Interdisciplinary Team. Hospice patients also have the assurance of a nurse on-call 24 hours a day, 7 days a week.

Sharon Whitley – Community Liaison, Home Care
(757) 594-5600

5-WEST ONCOLOGY UNIT

500 J. Clyde Morris Blvd., Newport News

5-West is a 29-bed unit that specializes in the care of the oncology patient. Two lead-lined rooms in the unit accommodate the client that has received cesium implants and radioactive iodine therapy.

The goal of the 5-West staff is to provide high quality professional care to individuals diagnosed with a hematology or oncology diagnosis. The unit has five Oncology Certified Nurses and the RN staff is certified to administer chemotherapy. Nurses on the unit care for the newly diagnosed patient, those receiving cancer treatment such as chemotherapy and/or radiation therapy, those receiving care for symptom control (both from the disease or the side effects of treatment), and those needing palliative care. The staff has extensive knowledge and skill in pain management.

Regardless of the stage of illness, supportive care and education is provided to patients and their families. Patients are encouraged to participate in the decision-making process and to optimize available resources to enhance their quality of life. Care of the oncology patient requires the support of many disciplines. 5-West provides the services of an oncology pharmacist, care managers, a discharge planner, dietitian, physical therapist and a chaplain. All are available to help with the physical, emotional and spiritual healing of the patient. The 5-West staff has a close relationship with the Hospice Program and the Hematology/ Oncology Unit teams.

Patricia Emerson, RN, BSN, OCN - Nurse Manager
(757) 594-3774

HEMATOLOGY/ONCOLOGY UNIT

500 J. Clyde Morris Blvd., Newport News

The Hematology/Oncology Unit (Hem/Onc) is a six-bed specialty care unit that is designed to care for the critically ill oncology patient by providing high quality patient-focused care in accordance with standards of excellence. The design of the unit facilitates the complex needs of the oncology patient with multi-body system support needs. This includes those individuals who need care following complex surgical procedures, stem cell transplants, and newly diagnosed leukemia patients. All clients are provided care by the interdisciplinary team collaborating to support the wellness of the patient.

Criteria for admission to Hem/Onc is an oncology diagnosis, as well as patients with stem cell transplants, patients requiring hemodynamic monitoring, ventilator support, or vasoactive drips. The Hem/Onc Unit has three oncology certified nurses. The unit anticipates meeting increased demands for more specialized and sophisticated medical care in the upcoming years.

Patricia Emerson, RN, BSN, OCN - Nurse Manager
(757) 594-3774

PAIN MANAGEMENT

James River Comprehensive Pain Management, PC
11848 Rock Landing Drive, Suite 303,
Newport News

The Comprehensive Pain Management Center opened in August 1999. Since that time the pain specialist has seen patients with many types of cancer including: breast, lung, pancreatic, and cervical cancer.

The Center offers a wide variety of treatment modalities ranging from conservative, non-invasive therapy to invasive interventional techniques for patients with all types of chronic and acute pain. Chronic pain patients require a multidisciplinary management approach, which can include, but is not limited to, pharmacotherapy (i.e. medications), injections, physical therapy and rehabilitation, surgical consultation, and management of depression/mood. Early intervention is the key to any successful treatment.

Lynn F. Dahl, DO - Diplomate, American Board of Anesthesiology
Diplomate, American Board of Pain Medicine
(757) 591-2260

ONCOLOGY CARE MANAGEMENT

500 J. Clyde Morris Blvd., Newport News

From diagnosis and throughout treatment, cancer patients and their families often encounter a wide range of new experiences that can affect every aspect of their lives. Unfamiliar tests, challenging treatments, and a range of complicated feelings and concerns can be overwhelming. The Oncology Care Management team can intervene to help patients and their supporters better maneuver this experience, to maintain the highest degree of wellness and quality of life.

Care coordinators are available to work closely with the whole health care team, assuring maximal access to resources that can promote the best possible outcomes. An interdisciplinary team approach is used to facilitate regular and timely communication between patients/families and care providers. In the hospital, interventions are focused on shortening necessary hospital stays, while maximizing access to the best care available and preparing for discharge. The care coordinator collaborates with the physician's office, home health, and other agencies to help with this transition. Patients are thereby prepared for the 'next step' in cancer care. Attending to current needs and anticipating future ones, patients and their families are assured timely and supportive services.

Yvonne Pike, M.Ed. – Patient Care Coordinator
(757) 594-2063

MAMMOGRAPHY SERVICES

500 J. Clyde Morris Blvd., Newport News

Riverside Regional Medical Center provides Mammography services at the following locations: Riverside Regional Medical Center, Riverside Diagnostic and Breast Imaging Center-Oyster Point & Riverside Diagnostic Center-Williamsburg.

Routine Mammography, supported with self-examination and clinical breast examination, provides women and a small population of men, with a method to detect breast disease early.

In July 2002, the Stereotactic modality at the Riverside Diagnostic and Breast Imaging Center-Oyster Point passed a 3-year accreditation with the American College of Radiology (ACR), becoming the seventh (7th) accredited facility in Virginia.

Ultrasound is another modality that has been offered since the center opened in 1998, and became re-accredited by the American College of Radiology in 2004.

All facilities meet MQSA (Mammography Quality Standards Act) requirements and maintain standards of excellence as demonstrated by ACR accreditation.

Suzanne Riley,R.T.(R)(N) CNMT – Director, Outpatient Diagnostics
(757) 595-6363

PET SERVICES

500 J. Clyde Morris Blvd., Newport News

In February 2002, Riverside Regional Medical Center purchased the first Positron Emission Tomography (PET) scanner on the Peninsula. Positron Emission Tomography (PET) is a molecular imaging technique that uses molecular probes, such as 18F-fluoro-2-deoxy-D-glucose (18F-FDG), a radioactive form of glucose, to image physiologic processes in the body. After intravenous administration of 18F-FDG, images of the body are obtained which can help to accurately discriminate benign from malignant processes in the body. Information from the PET images provides physicians important information concerning diagnosis, staging, and re-staging of cancer, as well as the monitoring and planning of cancer treatments.

PET imaging is currently used for single pulmonary nodules, non small cell lung cancer, head and neck cancer, lymphoma, colorectal cancer, breast cancer, esophageal cancer, melanoma and thyroid cancer. PET scanning demonstrates substantially higher accuracy than Computerized Tomography (CT) alone for staging and re-staging of many of these cancers.

In 2004, Riverside upgraded to a PET/CT scanner, which fuses PET images onto corresponding high-resolution anatomic images provided by CT. The combined study allows for more accurate evaluation of the PET data.

PET imaging services are currently provided to

Riverside Regional Medical Center, the Diagnostic Imaging Center in Williamsburg, Riverside Tappahannock Hospital and Riverside Walter Reed Hospital in Gloucester, VA.

Jonathan H. DeMeo, MD – Radiologist, Peninsula Radiology Associates
(757) 594-2911

Cancer Treatment

CANCER TREATMENT CENTER

Riverside Radiation Oncology Services
500 J. Clyde Morris Blvd., Newport News

In 2004, the Riverside Radiation Oncology department, an American College of Radiology (ACR) accredited program, continued to grow. A fourth radiation oncologist joined the practice and development of the technical expertise for external beam irradiation was accomplished with implementation of Intensity Modulated Radiation Therapy (IMRT) for select treatment sites such as prostate, head and neck and breast. IMRT is a sophisticated treatment modality that targets the tumor and delivers a high dose of radiation contoured to the exact shape and size of the tumor with minimal dose to surrounding normal tissue.

Full ranges of brachytherapy services including both low dose rate (LDR) and high dose rate (HDR) are available for cervical, prostate, bile duct, and lung cancer, as well as bone metastases. Riverside is the only local provider for the MammoSite Radiation Therapy System that delivers radiation directly to the surgical site and offers early stage breast cancer patients a choice to reduce treatment time from five weeks to one week.

Beverly Voglewede, Radiation Therapy Director
(757) 594-3099

WILLIAMSBURG RADIATION THERAPY CENTER

3901 Treyburn Drive, Suite B, Williamsburg

Williamsburg Radiation Therapy Center (WRTC), a joint venture between Riverside Regional Medical Center and Sentara Williamsburg Community Hospital (SWCH), continued to provide radiation therapy to members of the Williamsburg, James City, and West Point communities in 2004.

The program continues to grow in technical excellence and is one of five accredited by the ACR (American College of Radiology) in Virginia. The prostate seed implant program provides services to patients from multiple areas in cooperation with the area urologists and Sentara Williamsburg Community Hospital. The IMRT program for specific sites, including prostate, head and neck and breast cancer, was implemented in the fall of 2004. The radiation oncology department continues to participate in the National Cancer Institute approved trials in cooperation with the medical oncologists.

Beverly Voglewede, Radiation Therapy Director
(757) 594-3099

RIVERSIDE MIDDLE PENINSULA CANCER CENTER

7544 Medical Drive, Gloucester

Riverside Middle Peninsula Medical Cancer Center (RMPCC), a service of Riverside Walter Reed Hospital, opened in February 2004 providing radiation therapy services to over 140 new patients. The center has received widespread recognition from medical professionals and community members for quality, compassionate patient care. The radiation oncology department is equipped with the most up to date equipment providing a full array of treatment services, including IMRT, to the members of the Middle Peninsula community and surrounding areas. The Medical Director oversees a highly qualified team of radiation therapists, physicists, nurses, dieticians and other support staff.

RMPCC's focus to patients is highlighted with the emotional and meaningful graduation process each patient experiences when completing treatment. A ship's bell, donated by a former patient's family member, is rung by the graduate in celebration as the staff and family gather around to applaud and congratulate the patient.

Beverly Voglewede, Radiation Therapy Director
(757) 594-30399

CLINICAL TRIALS IN CANCER MANAGEMENT

895 Middle Ground Blvd., Build 200, Newport News
500 J. Clyde Morris Blvd., Newport News

In 2004, 158 patients were accrued to various cancer related clinical trials to include cooperative group treatment and prevention studies, and industry/pharmaceutical-sponsored studies. All studies are overseen by the Institutional Review Board (IRB), a combination of care professionals and community members. Informed consent and appropriate follow through of clinical research issues are elements of the IRB's responsibility. Other clinical trails available to patients in this area were:

NSABP (National Surgical Adjuvant Breast and Bowel Project). Joseph J. Schulz, MD, Principal Investigator.

NSABP P-2 STAR Study. Bruce Booth, MD, Principal Investigator.

GOG (Gynecological Oncology Group). Robert Squatrito, M.D. Principal Investigator.

CALGB (Cancer and Leukemia Group B). Joseph J. Schulz, MD, Co-Investigator.

USO (U S Oncology). Joseph J. Schulz, MD, Principal Investigator.

Duke Oncology Consortium (DOC), Joseph J. Schulz, MD, Investigator

Sarah Cannon Research Institute (SCRI), Paul Conkling, M.D. Principal Investigator

Clinical Trials Support Unit (CTSU), Paul Conkling, M.D. Principal Investigator

Sue DeOliveira, CCRA – Director of Clinical Research, Virginia Oncology Associates
(757) 873-9400

Rehabilitation

RIVERSIDE REHABILITATION INSTITUTE

245 Chesapeake Ave., Newport News

The philosophy of Riverside Rehabilitation Institute is to improve quality of life for survivors of cancer and other chronic and episodic situations. The goal is to provide an opportunity for the patient to return to his/her highest achievable level of function. This is accomplished through therapeutic interventions and patient/family education, both of which facilitate the cancer survivor's return to the home setting.

A board-certified physician, specializing in rehabilitation, coordinates a team of healthcare professionals in determining goals specific to the needs of the individual. The medical oncologist and the radiation oncologist also provide valuable input in determining a structured program to accomplish these goals. Transportation is provided for patients who need to receive chemotherapy at other facilities. Following discharge, a range of home health and outpatient services is available.

Kris Nunn – Director of Marketing and Business Development/RRI
Anne Moffat, Director of Nursing/RRI
Shelley Brown, Director of Clinical Services/RRI
(757) 928-8000

ENTEROSTOMAL THERAPY & EDUCATION

500 J. Clyde Morris Blvd., Newport News

The Enterostomal Therapy (ET) Department can evaluate a variety of conditions from ostomies, draining wounds, fistulas, pressure sores, and minor skin irritations, to other skin problems related to incontinence. For those patients requiring ostomy surgery the ET department works with surgeons to provide education and support to patients and their families, both prior to and after surgery.

An enterostomal therapist is available in the acute care, long-term care, home care, and outpatient settings to assist patients with ostomy, wound, or skin problems.

Phyllis Kohlman, RN, BSN, CWOCN - Enterostomal Therapy Coordinator
(757) 594-2559

NUTRITION SERVICES

500 J. Clyde Morris Blvd., Newport News

Good nutrition is essential in the treatment and management of cancer. Appropriate nutrition choices can help individuals to fight infection, cope better with side effects of treatment, re-build body tissues that may be affected during therapy, help maintain or regain

strength, and improve quality of life.

At Riverside Health System, dietitians are an integral part of the interdisciplinary team specializing in the nutritional care for people with cancer. Dietitians work closely with patients, families and friends to develop nutritional care plans to guide patients in dealing with the challenges of eating to maintain adequate nourishment during and after treatments. Dietitians complete nutritional assessments, provide interventions to improve nutritional status, offer diet instructions and any other aspects of nutritional care requested by physician, staff, or family members. As part of the interdisciplinary team, dietitians also participate in weekly team meetings to discuss the care of each patient.

Nutritional services are available to all oncology patients, including those receiving radiation therapy treatments. Dietitians also provide community education and staff in-services through Riverside Cancer Services.

Paige Williams, RD – Clinical Dietician
(757) 594-2615

PASTORAL CARE

500 J. Clyde Morris Blvd., Newport News

The chaplain at Riverside Regional Medical Center provides support to cancer patients, families, and friends. Pastoral care may involve conversation, prayer, liturgy, worship, sacraments, scripture reading, reflection and referral. The pastoral care service is interfaith, personal, and specific for the individual and family in need.

The purpose of pastoral care is to help make use of faith or spiritual values to work with the challenges of cancer. Community clergy and lay volunteers support the pastoral care program. There are five full-time chaplains, one who works specifically with cancer patients.

The chaplains lead an ecumenical worship service each Wednesday at 3:00 p.m. in the RRMC chapel located in the Lower Lobby area of the main hospital building. A more informal daily chapel service is also held each Monday and Friday from 12 until 12:15 p.m. The chapel is open 24 hours a day 7 days a week for prayer and meditation.

Doug Watson, M.Div., D. Min., BCC, ACPE Supervisor - Director of Pastoral Care
(757) 594-2273

Support Groups

PENINSULA CANCER SUPPORT GROUP (PCSG)

500 J. Clyde Morris Blvd., Newport News

The Peninsula Cancer Support Group (PCSG) was started in 1988 to answer the needs expressed by cancer survivors and their loved ones for practical support. Riverside resources have supported the PCSG since its inception.

These meetings provide an opportunity for support group interaction. Group members are encouraged to share questions, resources, experiences, feelings, and strategies for coping. The group member is considered to be the expert. Healthcare professionals trained in facilitating group support host these sessions. Support meetings are open to anyone who has a cancer diagnosis or is supporting someone through cancer diagnosis, treatment, and/or survivorship.

Monthly newsletters are sent to everyone on the mailing list to announce dates, times, and topics for upcoming meetings. New members are always welcome. It is the goal of this group and its facilitators to be available and accessible to anyone affected by cancer.

PCSG meets the first Wednesday of every month at 2:00 PM in the Cancer Treatment Conference Room.

Martha Petit, M.Ed., Ed.S. - Hospice Counselor and Coordinator of Bereavement Services
(757) 594-2745

BEREAVEMENT GROUPS

500 J. Clyde Morris Blvd., Newport News

Riverside Hospice provides a Bereavement Aftercare Program to support adults through adjustments they must make after experiencing the death of a loved one.

Most people do not understand the changes that occur during the grief process, so they attempt to avoid these changes, forcing themselves to "get on" with their lives. This is all done in an effort for them to help themselves to feel "normal" once again.

Riverside Hospice offers a support group and one on one support to assist those who are grieving with developing an understanding of the grief process. Community education is provided as an invitation to the community at large to learn about the same. The evening group is provided to allow time for the participants to talk about the issues related to loss and the different ways each person copes with his or her own loss. This group meets the second and fourth Thursdays of each month at 7:00 p.m. These meetings are designed for adults, 18 years of age or older, and are open to the community.

Bereavement Support is available for a limited number of sessions to assist with understanding the grief process and to encourage the development of new coping skills.

Bereavement Education is provided to assist local groups, such as physicians' offices, universities, schools, places of worship, and service organizations to learn more about loss and how they might be of assistance in helping others with the grief process.

Riverside Bereavement Services are free of charge, open to our local community, and are available on a self-referral basis.

Martha Petit, M.Ed., Ed.S. - Hospice Counselor and Coordinator of Bereavement Services
(757) 594-2745

Community Cancer Education/Outreach

EVERY WOMAN'S LIFE

The Centers for Disease Control and Prevention (CDC) launched the Breast and Cervical Cancer Early Detection Program (BCCEDP) in the U.S. in response to the 1990 Cancer Prevention Act, which seeks to reduce breast and cervical cancer morbidity and mortality in women through early detection. The BCCEDP partners with local and state agencies to provide free mammograms, clinical breast examinations and Pap smears to at-risk women. The CDC established that lower income, uninsured and minority women face multiple barriers to screening. To be eligible, women must be age fifty or older, meet the current federal income guidelines, and be uninsured or underinsured. Screening tests are performed in accordance with the current American Cancer Society recommendations for screening of the breast and cervix.

EVERY WOMAN'S LIFE
A Virginia Department of Health Program

Beginning in 1998, Riverside Health System became a partner with the BCCEDP and began the program with the communities it serves. Areas that comprise Riverside's EWL program include: Peninsula Health District - Newport News, James City County, Poquoson, Williamsburg, York County; the Three Rivers Health District - Tappahannock City, Northern Neck region, and the counties of Mathews, Gloucester, Middlesex, King William, King and Queen, Lancaster, Richmond, Westmoreland, and Northumberland.

Riverside incorporated community partners to oversee and promote Riverside's program. Partners include members from the Peninsula and Three Rivers Health Districts, Riverside Cancer Services, Riverside Regional Medical Center, Riverside Walter Reed Hospital, Riverside Tappahannock Hospital, the American Cancer Society, the Peninsula Cancer Prevention Coalition, the Peninsula Institute for Community Health and the Peninsula Agency on Aging. In addition, Riverside recruited medical providers to perform screenings and provide follow-up care. Our physician providers include: eight Gynecologists, five Surgeons, five Pathologists, and ten Radiologists. Women have Pap smears and clinical breast examinations at three sites, including a free clinic. For mammography screening Riverside has five sites available to perform screening and follow-up examinations. Other resources include a medical oncology group and radiation oncology group, as well as community agency resources.

Since the establishment of the program at Riverside, over 2050 women have been enrolled in the BCCEDP. Thirty-five breast cancers and three cervix cancers have been diagnosed in the program.

Historically, women enrolled in BCCEDP facing breast or cervical cancer were treated by Riverside providers who donated their services and fees. In 2001

the Breast & Cervical Cancer Prevention and Treatment Act was enacted. This Act permits women who are enrolled in the Virginia BCCEDP and who are diagnosed with breast or cervical cancer while in the program to be eligible for Medicaid during the treatment phase of cancer care.

Fran Holcomb, R.N., B.S.N., O.C.N. – Cancer Education and Outreach Nurse
(800) 520-7006

BREAST HEALTH ALLIANCE PROGRAM (BHAP)

The Komen Foundation was established as a result of a promise made between two sisters – Susan Goodman Komen and Nancy Goodman Brinker. In 1978 Susan was diagnosed with breast cancer. Little was known about breast cancer when Susan later died at age 36. Before her death Susan asked her sister to bring an end to breast cancer by doing what she could to learn more about the disease through research and education. Nancy kept her promise by establishing the Susan G. Komen Breast Cancer Foundation in 1982 in Susan's memory.

The Komen Foundation became the largest private source of breast cancer research funding in the United States. In addition to funding national research, the Komen Foundation and its affiliates fund community-based health education, breast cancer screening and treatment projects for the medically under-served.

Riverside Health System has been a four-time recipient of a grant through the Tidewater Affiliate of the Susan G. Komen Foundation. In 2004, Riverside continued the Breast Health Alliance Program (BHAP) after receiving funding through the local Komen Foundation to provide 125 mammograms for eligible women. The eligibility criteria are based on the BCCEDP criteria with changes in the age of the participant and an additional service area. Women enrolling in the BHAP must be under age fifty and live in the Peninsula, Three Rivers or Hampton Health Districts. Since the inception of the program, over 450 women have been screened for breast cancer using mammography. Of those screened, seven women have been diagnosed with breast cancer. All eligible women were referred to the BCCEDP prior to diagnosis to maintain eligibility for the Breast and Cervical Cancer Early Detection Program Treatment Act.

In addition to providing mammography screenings, free Pap smears and clinical breast examinations are offered to all participants. This initiative is funded through Riverside Cancer Services as part of their outreach activities to the community. Over 200 women have taken advantage of this free offering to date.

Fran Holcomb, R.N., B.S.N., O.C.N. – Cancer Education and Outreach Nurse
(800) 520-7006

CANCER SERVICES/ CANCER RESOURCE LIBRARY

The initiatives have expanded to include a wide variety of activities and services. Services are extended to the communities on the Peninsula, Middle Peninsula and Tappahannock/ Northern Neck area.

Working with the medical staff, oncology nurses, allied health care professionals, and community partners, such as the American Cancer Society, the Leukemia/Lymphoma Society, and with the leadership of the Riverside Oncology Committee, Cancer Services develops an annual plan of action that incorporates cancer prevention and early detection activities. Seminars, health classes, health fairs and other health screenings provide opportunities for the community to take part and learn more about cancer, cancer prevention/early detection. In 2004, 49 activities were held, with over 2000 people participating in the different programs. Activities included: community health fairs, prostate cancer screenings, cervical cancer screenings, Look Good Feel Better classes, Tell-A-Friend programs, nutritional seminars focusing on cancer prevention, a colon cancer screening, a breast cancer awareness seminar, breast self examination certification classes, skin cancer screenings, monthly cancer prevention and early detection topics at the Healing Eagle Free Clinic, colon cancer prevention seminar, and breast health presentations.

In November 2004, Riverside Health System also became a community partner with the newly formed Colon Cancer Prevention Coalition and was officially named a "Colon Cancer Free Zone." This designation signifies that Riverside is committed to educating their employees about colon cancer prevention and encouraging colonoscopy and other early detection tests of this cancer.

In 1989 Riverside established a Cancer Resource

Library for those community or staff members requiring assistance in learning more about cancer issues. This area provides cancer information through books, pamphlets, videos and Internet access. The Library had over 125 visitors in 2004.

Fran Holcomb, RN, BSN, OCN – Cancer Education and Outreach Nurse
(800) 520-7006

RIVERSIDE CANCER SERVICES PARTNERING WITH THE AMERICAN CANCER SOCIETY

Reducing cancer morbidity and mortality in the Untied States through prevention and early detection is fundamental. Utilizing a strategic plan that provides the community with the tools to facilitate awareness of prevention methods and annual cancer screening examinations is the foundation of changing health practices. Each year, in addition to the annual Cancer Services Education Plan, Riverside Cancer Services partners with the American Cancer Society (ACS) to incorporate activities that provide cancer information to the communities we serve. Combining resources and support services to promote mutual objectives only strengthens the mission to decrease cancer. Riverside and the ACS collaborated to educate the community on the following health initiatives in 2004: ACS patient support programs, including promotion of the Patient Services programs offered by ACS; increasing colon health awareness as well as breast cancer screenings among age-appropriate women; nutrition and physical activity related to decreasing cancer; Relay For Life that also included a health information booth at the event; and raising awareness of prostate cancer screenings. Other activities include promotion of the American Cancer Society's "Healthy Kids Network," having an ACS representative on the RRMC cancer committee meetings, having a Riverside member on the ACS Mission Delivery Council, and having a Riverside representative co-chair the Colon Cancer Awareness Coalition.

Fran Holcomb, RN, BSN, OCN, Cancer Education & Outreach Nurse
(800) 520-7006

Valerie Burge-Hall, Mission Delivery Manager, South Atlantic Division, American Cancer Society
(757) 591-8330

FUTURE ENDEAVORS

As the Medical Director of Oncology Services at Riverside Health System, it is an honor to be at the helm of a program that has demonstrated excellence over the past 25 years and serves as the leader of quality cancer services in our region. Although we are proud of the successes of our past, the future for the Cancer Program at Riverside is exciting and bright.

The recent affiliation of several teams of specialists, including Peninsula Cancer Institute (Medical Oncology), Hampton Roads Surgical Specialists (General and Oncologic Surgery), and Peninsula Radiation Oncology with Riverside is a significant step forward in bringing together those physicians who treat cancer on a daily basis, and will help further promote our multi-disciplinary approach to the diagnosis and treatment of cancer.

The Riverside Cancer Research Program, developed through a cooperative agreement between Peninsula Cancer Institute and Riverside Regional Medical Center, is providing access to the latest National Cancer Institute-sponsored clinical trials, so that patients in our region may be treated close to home with the most sophisticated and current treatment regimens available. We anticipate significant growth in our Research Program over the next 12 months, to allow more patients to take advantage of these state-of-the-art clinical trials.

The addition of the Riverside and University of Virginia Radiosurgery Center will allow patients access to Gamma Knife®, and Synergy-S®, technology for the first time in the Tidewater region. This facility, which will become operational in 2006, will offer knifeless surgery, which is useful in the treatment of both malignant and non-malignant conditions.

Further improvements in information technology will allow the Riverside Cancer Program to continually evaluate our treatment of cancer in this community, so that we may continue to provide quality care and achieve optimum therapeutic outcomes.

Finally, the opening of the new Riverside Cancer Center, on the campus of Riverside Regional Medical Center, will allow specialists from Radiation Oncology, Medical Oncology, and other Oncology-related specialties to deliver state-of-the-art care in a comfortable and caring environment. This facility, scheduled to open in April 2006, will offer comprehensive cancer services, including patient education, family services, nutritional counseling, along with clinical cancer research, radiation therapy services and chemotherapy services, all under one roof, to allow easy access for patients and their families.

Remaining the premier provider of cancer services in our region is the priority for the Riverside Cancer Program. It is our mission to provide our patients with the highest quality cancer care available, and our patients deserve nothing less. I am proud to be a part of such a dedicated team of professionals.

Mark Ellis, MD – Medical Director of Oncology Services,
Riverside Health System

Review of 2004 Accessions

Riverside's commitment to providing comprehensive cancer care to our community is not limited to the use of the latest technological advances to diagnose and care for cancer patients. This commitment also extends to tracking and researching cancer in our community. It is only with greater knowledge that we are better equipped to help each patient. Every cancer patient diagnosed and/or treated at Riverside Regional Medical Center is included in our Cancer Registry. The Cancer Registry compiles incidence for the hospital and forwards these statistics to the Virginia Cancer Registry and the National Cancer Data Base (NCDB).

The Riverside Regional Medical Center Cancer Registry identified 1138 new cancer cases for 2004. 127 (11.2%) of these cases were non-analytic, meaning that they were not originally diagnosed and/or treated at this facility. The patient could have entered the system for a later course of therapy such as palliative radiation, surgery, or chemotherapy. Of all of the 2004 cases, 76% were Caucasian, 23% were African American, and 1% were Asian.

In 2004, breast cancer became the largest group of analytic cases (overtaking lung cancer from 2003). There were 198 cases diagnosed and/or treated at Riverside Regional Medical Center, which represents a 6% increase from last year. Over 79% of the breast cancer patients were diagnosed with a localized stage (0, I, or II). The prognosis for patients is much better for patients when the disease is localized. As the efforts for early breast cancer detection have increased, the stage at diagnosis has decreased, which is an excellent sign.

The next two leading cancer groups were lung cancer and colorectal cancer. Lung cancer cases decreased by almost 30% from 2003 to 2004. However, 69% of these lung cancer cases were diagnosed with regional or distant disease (stage III or IV). This is due to the lack of a screening test, as well as many lung cancers being asymptomatic until metastasis. Colorectal cancer cases increased by 20% from 2003 to 2004 (104 vs. 125). One interesting aspect of the increase is that rectal cancer almost doubled, going from 27 cases in 2003 to 50 cases in 2004. Early stage and late stage disease for colorectal cancer were similar with stages 0, I, and II contributing 47% of cases, and stages III, IV, and unknown stage contributing the other 53%. Many times the symptoms of colorectal cancer do not present themselves until it is too late, but unlike lung cancer, colorectal cancer can easily be prevented or caught early through routine colonoscopy. This is why people over 50 should have a screening colonoscopy at least once every five years. Hopefully, this will lead to early detection and reduce the number of late-stage diagnoses.

Prostate cancer cases decreased again (from 104 to 80 analytic cases) this year, but still are the fourth leading cancer site at Riverside Regional Medical Center. Localized disease was responsible for 86% of prostate cancer cases. Screening techniques and increased awareness (prostate-specific antigen (PSA) test) have helped in diagnosing and prostate cancers at an early stage, preventing the spread of disease.

Melanoma is the fifth leading tumor group. Since 2002, melanoma has risen from 43 cases to 64 cases (a 49% increase in 2004), which is notable. 91% of these were early stage (0, I, and II) cases and are likely to result in a very high cure rate. Skin cancer education and routine physical examinations have led to this early detection, and there is no indication that trend will change.

The rest of the top ten cancer sites are as follows: non-Hodgkins lymphoma, urinary bladder, kidney/renal pelvis, thyroid, and pancreas. As a reminder, these statistics are facility-based, meaning they only pertain to Riverside Regional Medical Center. For national and state statistics, the National Institutes of Health and the American Cancer Society are the recommended resources.

Bradley W. Kirby, MPH, CTR
Cancer Registry Supervisor, Oncology
Research Coordinator

Review of 2004 Accessions

Primary Site	Cases	%	Class of Case		Sex		Stg 0	Stg I	Stg II	Stg III	Stg IV	Stg NA	Unk
			Analytic	Non-Analytic	Male	Female							
Buccal Cavity & Pharynx	**25**	**2.2%**	**23**	**2**	**15**	**10**	**0**	**8**	**4**	**3**	**6**	**0**	**2**
Tongue	8	0.7%	8	0	4	4	0	4	3	0	1	0	0
Salivary Glands	3	0.3%	3	0	1	2	0	0	1	1	1	0	0
Floor of Mouth	2	0.2%	1	1	2	0	0	1	0	0	0	0	0
Gum & Other Mouth	3	0.3%	3	0	1	2	0	2	0	0	0	0	1
Tonsil	5	0.4%	5	0	4	1	0	0	0	2	2	0	1
Oropharynx	1	0.1%	1	0	0	1	0	1	0	0	0	0	0
Hypopharynx	3	0.3%	2	1	3	0	0	0	0	0	2	0	0
Digestive System	**214**	**18.8%**	**196**	**18**	**106**	**108**	**3**	**35**	**41**	**37**	**54**	**12**	**14**
Esophagus	14	1.2%	12	2	10	4	1	1	1	2	3	0	4
Stomach	18	1.6%	17	1	13	5	0	2	2	2	9	1	1
Small Intestine	6	0.5%	6	0	4	2	0	0	0	2	1	3	0
Colon Excluding Rectum	82	7.2%	75	7	33	49	0	15	18	20	20	0	2
Rectum & Rectosigmoid Junction	54	4.7%	50	4	29	25	1	11	14	6	7	7	4
Anus, Anal Canal & Anorectum	3	0.3%	3	0	0	3	0	1	0	1	0	0	1
Liver & Intrahepatic Bile Duct	5	0.4%	4	1	1	4	0	2	0	2	0	0	0
Gallbladder	2	0.2%	2	0	0	2	1	0	0	0	1	0	0
Other Biliary	6	0.5%	5	1	3	3	0	1	2	0	2	0	0
Pancreas	22	1.9%	20	2	13	9	0	2	4	1	11	0	2
Retroperitoneum	1	0.1%	1	0	0	1	0	0	0	1	0	0	0
Peritoneum, Omentum & Mesentery	1	0.1%	1	0	0	1	0	0	0	0	0	1	0
Respiratory System	**176**	**15.5%**	**160**	**16**	**109**	**67**	**1**	**43**	**11**	**49**	**52**	**3**	**1**
Larynx	16	1.4%	15	1	16	0	1	5	4	4	1	0	0
Lung & Bronchus	160	14.1%	145	15	93	67	0	38	7	45	51	3	1
Bones & Joints	**1**	**0.1%**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**
Soft Tissue	**12**	**1.1%**	**9**	**3**	**5**	**7**	**0**	**0**	**0**	**0**	**1**	**1**	**7**
Skin excluding Basal & Squamous	**67**	**5.9%**	**61**	**6**	**40**	**27**	**7**	**43**	**6**	**3**	**1**	**0**	**1**
Melanoma - Skin	64	5.6%	58	6	39	25	7	40	6	3	1	0	1
Other Nonepithelial Skin	3	0.3%	3	0	1	2	0	3	0	0	0	0	0
Breast	**216**	**19.0%**	**198**	**18**	**3**	**213**	**24**	**64**	**69**	**28**	**10**	**0**	**3**
Female Genital System	**54**	**4.7%**	**43**	**11**	**0**	**54**	**6**	**17**	**3**	**13**	**3**	**0**	**1**
Cervix Uteri	9	0.8%	8	1	0	9	0	4	1	2	0	0	1
Corpus and Uterus, NOS	20	1.8%	18	2	0	20	1	10	2	4	1	0	0
Ovary	15	1.3%	8	7	0	15	0	0	0	6	2	0	0
Vagina	1	0.1%	1	0	0	1	0	1	0	0	0	0	0
Vulva	6	0.5%	6	0	0	6	5	0	0	1	0	0	0
Other Female Genital Organs	3	0.3%	2	1	0	3	0	2	0	0	0	0	0
Male Genital System	**105**	**9.2%**	**87**	**18**	**105**	**0**	**0**	**4**	**70**	**9**	**4**	**0**	**0**
Prostate	97	8.5%	80	17	97	0	0	1	68	7	4	0	0
Testis	6	0.5%	5	1	6	0	0	3	1	1	0	0	0
Penis	2	0.2%	2	0	2	0	0	0	1	1	0	0	0
Urinary System	**66**	**5.8%**	**59**	**7**	**45**	**21**	**18**	**16**	**8**	**6**	**7**	**0**	**3**
Urinary Bladder	38	3.3%	34	4	30	8	16	5	5	3	3	0	2
Kidney & Renal Pelvis	23	2.0%	20	3	13	10	0	9	3	3	4	0	1
Ureter	3	0.3%	3	0	1	2	1	2	0	0	0	0	0
Other Urinary Organs	2	0.2%	2	0	1	1	1	0	0	0	0	0	1
Eye & Orbit	**2**	**0.2%**	**1**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
Brain & Other Nervous System	**35**	**3.1%**	**33**	**2**	**14**	**21**	**0**	**0**	**0**	**0**	**0**	**33**	**0**

Review of 2004 Accessions continued

Primary Site	Cases	%	Class of Case		Sex		Stg 0	Stg I	Stg II	Stg III	Stg IV	Stg NA	Unk
			Analytic	Non-Analytic	Male	Female							
Brain	19	1.7%	18	1	9	10	0	0	0	0	0	18	0
Other Nervous System	1	0.1%	1	0	0	1	0	0	0	0	0	1	0
Benign/Borderline Primary Intracranial and CNS	15	1.3%	14	1	5	10	0	0	0	0	0	14	0
Endocrine System	**32**	**2.8%**	**29**	**3**	**13**	**19**	**0**	**12**	**4**	**5**	**1**	**7**	**0**
Thyroid	22	1.9%	22	0	7	15	0	12	4	5	1	0	0
Other Endocrine (including Thymus)	10	0.9%	7	3	6	4	0	0	0	0	0	7	0
Lymphomas	**46**	**4.0%**	**39**	**7**	**24**	**22**	**0**	**14**	**10**	**10**	**5**	**0**	**0**
Hodgkin Lymphoma	7	0.6%	7	0	5	2	0	3	4	0	0	0	0
Hodgkin - Nodal	7	0.6%	7	0	5	2	0	3	4	0	0	0	0
Non-Hodgkin Lymphoma	39	3.4%	32	7	19	20	0	11	6	10	5	0	0
NHL - Nodal	30	2.6%	23	7	15	15	0	4	6	9	4	0	0
NHL - Extranodal	9	0.8%	9	0	4	5	0	7	0	1	1	0	0
Myeloma	**16**	**1.4%**	**11**	**5**	**8**	**8**	**0**	**0**	**0**	**0**	**0**	**11**	**0**
Multiple Myeloma	16	1.4%	11	5	8	8	0	0	0	0	0	11	0
Leukemias	**18**	**1.6%**	**10**	**8**	**14**	**4**	**0**	**0**	**0**	**0**	**0**	**10**	**0**
Lymphocytic Leukemia	9	0.8%	4	5	7	2	0	0	0	0	0	4	0
Acute Lymphocytic Leukemia	1	0.1%	1	0	1	0	0	0	0	0	0	1	0
Chronic Lymphocytic Leukemia	6	0.5%	2	4	4	2	0	0	0	0	0	2	0
Other Lymphocytic Leukemia	2	0.2%	1	1	2	0	0	0	0	0	0	1	0
Myeloid & Monocytic Leukemia	**9**	**0.8%**	**6**	**3**	**7**	**2**	**0**	**0**	**0**	**0**	**0**	**6**	**0**
Acute Myeloid Leukemia	6	0.5%	5	1	4	2	0	0	0	0	0	5	0
Chronic Myeloid Leukemia	3	0.3%	1	2	3	0	0	0	0	0	0	1	0
Mesothelioma	**15**	**1.3%**	**14**	**1**	**12**	**3**	**0**	**6**	**2**	**2**	**1**	**2**	**1**
Ill-Defined/Unspecified	**38**	**3.3%**	**37**	**1**	**19**	**19**	**0**	**0**	**0**	**0**	**0**	**37**	**0**
Total	**1,138**		**1,011**	**127**	**533**	**605**	**59**	**262**	**228**	**165**	**146**	**117**	**33**

Note: Groups in Unbolded font aggregate to form the category immediately above the 1st item in the group.

2004 Cancer Incidence in Leading Sites

RRMC

% of All Male Cases	% of All Female Cases
PROSTATE 18%	BREAST 35%
LUNG 17%	LUNG 11%
COLON/RECTUM 12%	COLON/RECTUM 12%
MELANOMA 7%	CERVIX/UTERUS 5%
BLADDER/URINARY TRACT 6%	MELANOMA 4%

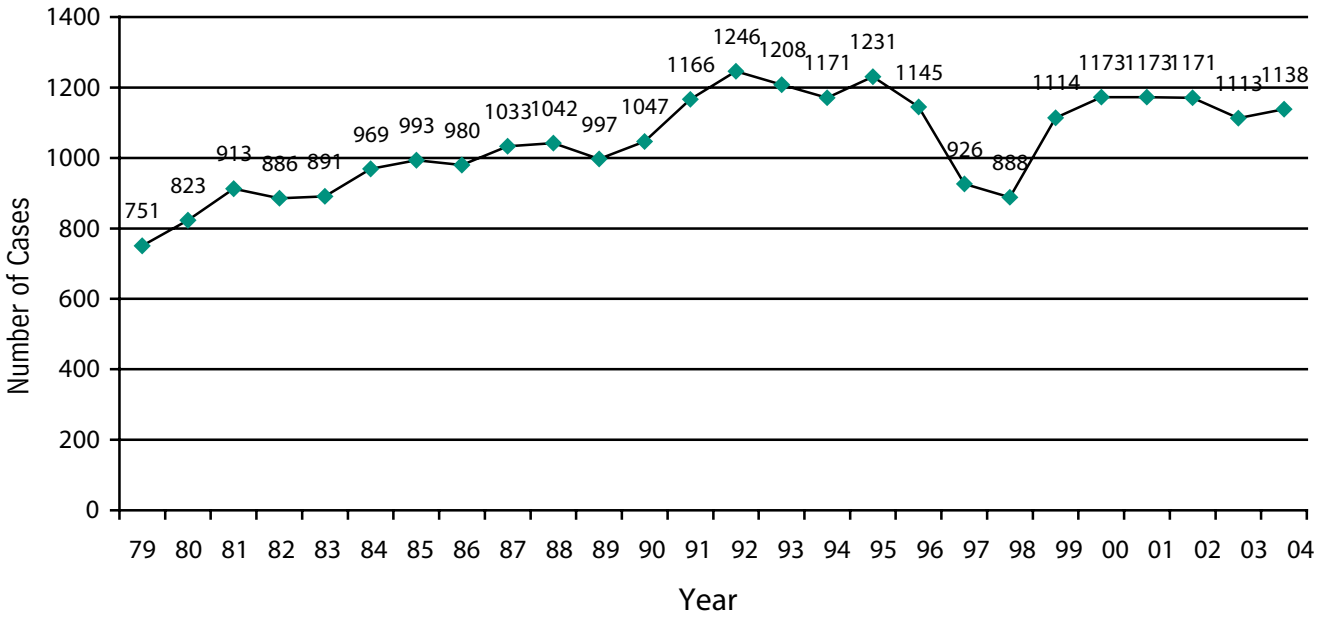
Note: The above cases account for 64% of all Riverside cases in 2004

AMERICAN CANCER SOCIETY

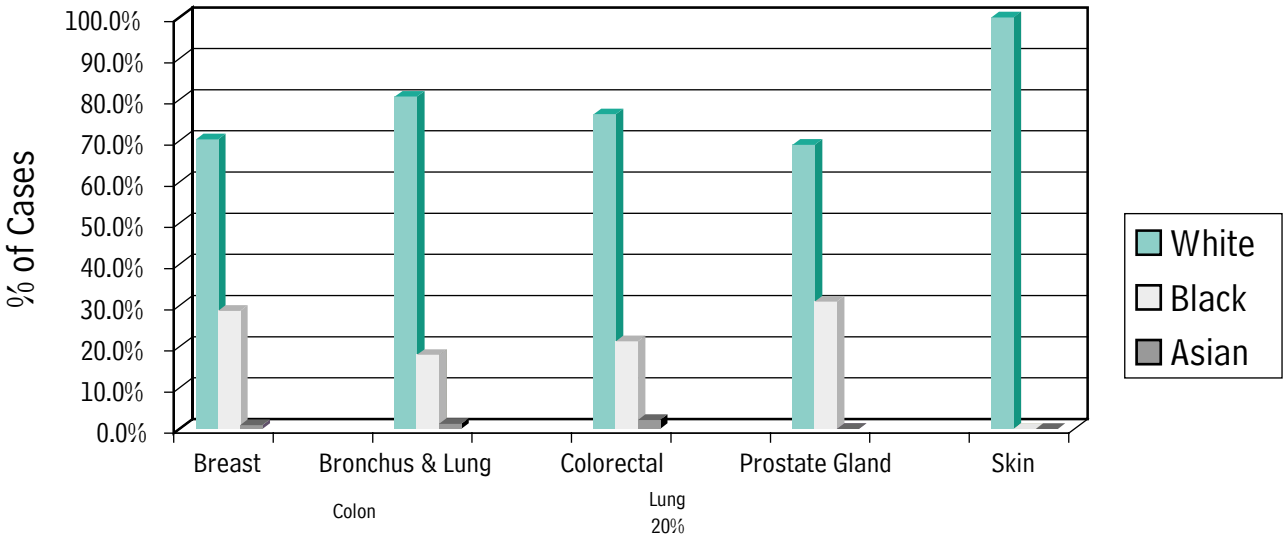
% of All Male Cases	% of All Female Cases
PROSTATE 33%	BREAST 32%
LUNG 13%	LUNG 12%
COLON/RECTUM 10%	COLON/RECTUM 11%
BLADDER/ URINARY TRACT 7%	CERVIX/UTERUS 8%
MELANOMA 5%	NON HODGKINS LYMPHOMA 4%

Note: The above cases account for 67% of all American Cancer Society estimated cases in 2004

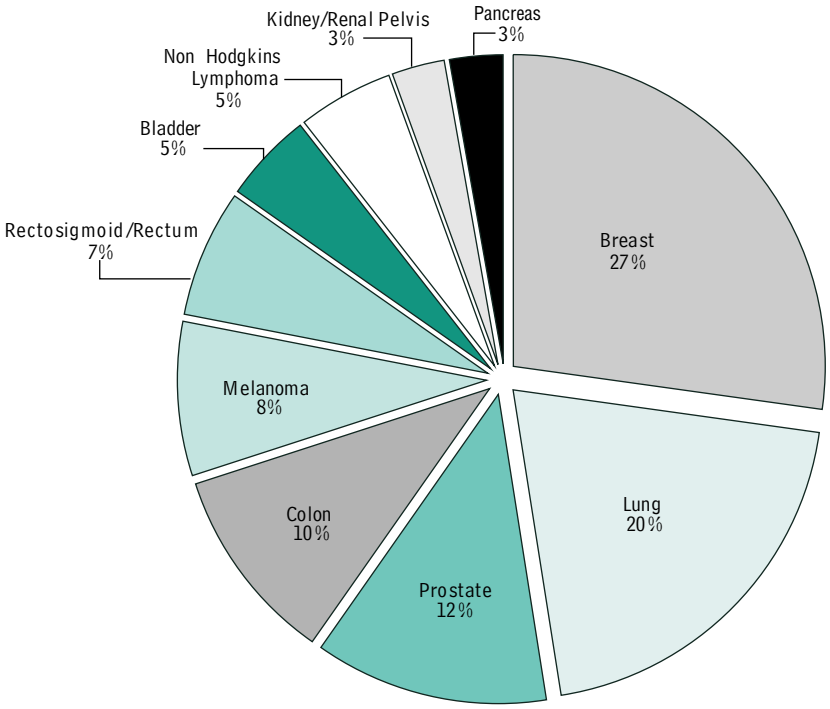
RRMC Cancer Registry Data Base 1979 - 2004



RRMC Top 5 Sites by Race



RRMC 2004 Top 10 Sites



Colorectal Cancer Treatment at Riverside Regional Medical Center

The Gastroenterologist

Frederick M. Gessner, MD, FACP
Peninsula Gastroenterology, PC

Colon cancer is the fourth most common cancer in the United States and second only to lung cancer as a cause of death due to cancer. This cancer gradually develops over a relatively long period of time making it amenable to early detection and cure. The gastroenterologist plays an integral role in the diagnosis, prevention and cure of colon cancer primarily through an outpatient procedure called colonoscopy.

Colonoscopy is a procedure performed by highly trained specialists. A bowel cleansing preparation is taken the night before the procedure. This enables the gastroenterologist to examine the entire colon to detect and remove precancerous lesions. The patient is made comfortable during the procedure by medication given intravenously. The diagnostic accuracy is 90-95% for detecting polyps, and the overall risk is low, at 0.5% for diagnostic procedures.

Since 90% of colon cancers arise in patients over 50 years of age, screening examinations are designed to begin at age 50 in the average risk individual. Average risk is defined as having no family history of colon cancer and no personal history of diseases associated with an increased risk of cancer such as inflammatory bowel disease.

An average risk patient has a 5-6% chance of developing colon cancer before age 80 and a 2.5% risk of dying from the disease. A 1-cm polyp has a 10% risk of progressing to colon cancer in 10 years, and more than 80% of cancers start as polyps. As you can see, removing polyps reduces the risk of cancer.

Some patients may require earlier screening given a family history of colon cancer or personal history of diseases placing them at increased risk. Some patients may inherit a gene that makes them much more susceptible to colon cancer, but this is much less common than cancer developing in the average risk individual.

Patients may be diagnosed with colon cancer at the time of colonoscopy and require further treatment by surgeons. Every day, new surgical techniques are being developed to reduce the trauma of surgery, improve the cure rate, and speed the recovery time. After surgery, some patients require treatment by a medical or radiation oncologist as well. Radiologists may be involved not only for diagnostic CT scans and PET scans, but also to help with therapeutic procedures.

In summary, the diagnosis and treatment of colon cancer may involve the services of specialists such as gastroenterologists, oncologists, radiologists, and surgeons. Ultimately, patient participation in a screening program will have the largest impact to reduce the incidence of cancer and improve survival.

The Radiologist

Jonathan H. DeMeo, MD
Peninsula Radiological Associates

Colorectal carcinoma is the second leading cause of cancer-related deaths and the fourth most common cancer overall in the United States, with an estimated 56,730 deaths and 146,940 new cases expected to have occurred during 2004 (1). When detected at an early stage, this type of cancer has great potential for cure, with a 5-year survival rate of 90% when the cancer is localized versus a survival rate of less than 10% when it has metastasized. Unfortunately, while incidence rates have stabilized since the mid-1990s, only 38% of colorectal carcinomas are localized at initial diagnosis, whereas almost 20% of newly diagnosed cases have distant metastases (1).

Accurate staging of colorectal carcinoma is necessary in determining patient prognosis and therapeutic management. While conventional CT has not been accurate in determining the depth of invasion

(2,3) or in evaluating tumor foci in non-enlarged lymph nodes, CT has been shown to be accurate in determining distant metastases or adjacent organ invasion, thereby directing the appropriate surgical procedure and neoadjuvant therapy (2,4-6).

Positron emission tomography (PET) with 18 (18F) fluorodeoxyglucose (FDG) has been reported to have an important complementary role in the detection of distant metastases and local recurrence in patients with colorectal cancer (Fig. 1&2) (7-9). FDG is a radiopharmaceutical analog of glucose that is taken up by metabolically active tumor cells using facilitated transport similar to that used by glucose. The rate of uptake of FDG by the tumor cells is proportional to their metabolic activity. Like glucose, it undergoes phosphorylation to form FDG-6-phosphate; however, unlike glucose, it does not undergo further metabolism, thereby becoming trapped in metabolically active cells. PET is particularly useful in identifying metastatic disease in patients with a rising CEA level and a negative CT. PET is also very helpful in assessing response of metastatic disease to chemotherapy.

The diagnosis of pelvic recurrence and the differentiation of tumor recurrence and changes associated with previous surgery and/or radiation therapy in the pelvic region constitute a diagnostic challenge for CT and MR imaging. Most patients undergoing abdominoperineal resection develop a fibrotic mass in the presacral operative bed. Radiation therapy causes an inflammatory reaction in the pelvic tissues and induces thickening of the perirectal fascia; these changes may appear on CT images for many years and be indistinguishable from tumor recurrence. The advent of PET/CT, a PET scan performed at the same time as a CT scan with direct fusion of the images, has dramatically improved differentiation between scar tissue and recurrent neoplasm (7,9).

In summary, while CT and MRI are the most widely used modalities for staging and restaging of colorectal carcinoma, PET is emerging as an important diagnostic tool to detect unsuspected metastatic disease not seen on CT and to assess the efficacy of chemotherapy.

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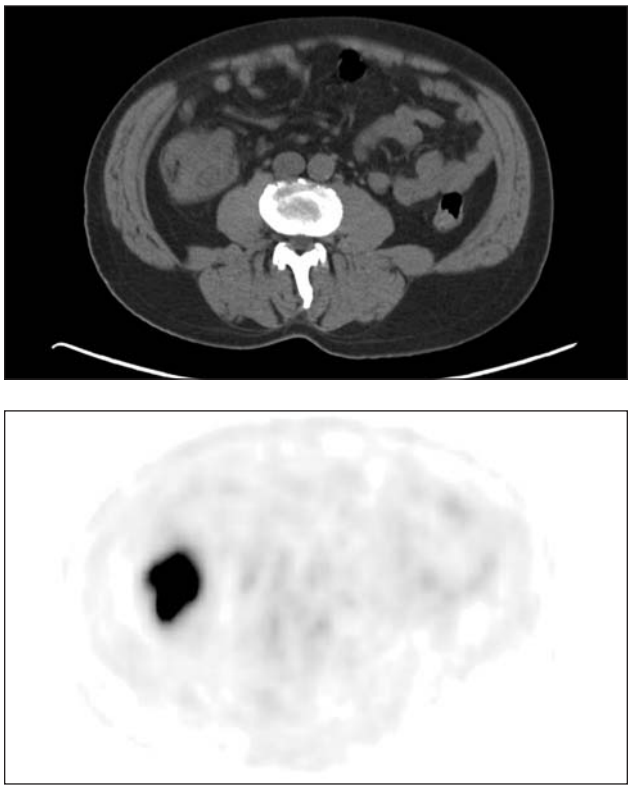

Figure 1. Colon Carcinoma. a) CT image from a PET CT reveals a large mass in the right colon (arrow). b) PET image at same level as 1a reveals marked increase in metabolic activity within the mass.

Figure 2. Colon Carcinoma. Hypermetabolic lesion in the right lower quadrant (arrow), which represents a carcinoma in the cecum. Four hypermetabolic lesions in the liver and 2 in the left lung (arrowheads), which represent metastatic disease.

The Pathologist

Carolyn O'Connor, MD
Peninsula Pathology Associates

Colon cancer arises from cells of the mucosa, the inner lining of the intestines. Colonoscopy is one of our best tools for detecting cancer because it enables a doctor to carefully examine the mucosa of the entire colon, with magnification to see detail in areas of interest. Tumors or polyps that are found are immediately sampled by biopsy during the same procedure.

These colonoscopic biopsies are sent to a laboratory and examined by a pathologist. Most colon polyps are benign, but some contain early cancers that may only be seen under the microscope. Most colon cancers appear as grossly malignant tumors to the doctor who performs the colonoscopy and are confirmed as malignant by the pathologist who examines the biopsy.

Once colon cancer is diagnosed, the first step is usually surgical resection of the involved segment of colon. The removed colon segment is sent to the pathology laboratory. The tumor is sectioned, measured, and described. All lymph nodes surrounding the colon are dissected from the tissues. The lymph nodes and samples of the tumor are processed for examination under the microscope to see how deeply the tumor invades the wall, whether cancer cells have spread to the lymph nodes, whether the tumor involves the margins, and other details. The details of gross and microscopic examination are summarized as a pathologic classification and stage of the cancer, crucial in determining the prognosis and course of treatment.

The pathologist may perform a special stain for epidermal growth factor receptor (EGFR) on samples of colon cancer in some instances. If the tumor is positive for EGFR, some response to Erbitux, an EGFR inhibitor anticancer drug, is expected. If the tumor does not stain for EGFR, it is assumed that the tumor is resistant to an EGFR inhibitor drug such as Erbitux, so that unnecessary use of this class of drugs may be avoided.

Since the mucosa of the colon is constantly exposed to what we eat, it is logical that substances in our diet cause colon cancer, though difficult to prove what the culprits are. Fiber has long been thought to protect against colon cancer, perhaps by reducing contact of the mucosa with toxic, cancer-causing chemicals. One study published in Lancet showed a strong association between colon cancer and low fiber diet among a large number of Europeans (1). Though dietary issues are still controversial, it is wise to eat plenty of fiber-rich foods such as fruits, vegetables and whole grains. Such a diet is known to have general health benefits and may reduce the risk of colon cancer.

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The Surgeon

Michael Peyser, MD
Hampton Roads Surgical Specialists

The role of the surgeon is to assist in the staging of the colorectal cancer and determine the type of surgical intervention. The diagnosis of colorectal cancer is often made by the gastroenterologist who obtains a biopsy of colon or rectal tissue and submits it for pathologic analysis. The location of the cancer is very important as this determines the proper operative procedure. Colon and rectal cancer are often used interchangeably which is incorrect as they represent two very different parts of the gastrointestinal tract and the surgical treatment as well as the adjuvant (post-operative) treatment is different. Note is made of the location of the cancer which includes the ascending, transverse, descending, and sigmoid colon. In addition, rectal cancer is found in the distal part of the gastrointestinal tract and its position is noted relative to the anus.

Surgeons will perform a digital rectal examination in an attempt to feel a rectal tumor. A rigid proctoscopy is sometimes done in the office setting to see the tumor. Endorectal Ultrasound can be used as a sensitive indicator of the depth of a rectal tumor and the presence of perirectal lymph nodes. Staging of colon and rectal cancer requires information about the tumor's depth of invasion (T), the presence of lymph node involvement (N), and the presence of metastases (M). The TNM staging system is accurate and provides a complete description of the cancer. The true pathologic extent of the cancer can only be determined when the specimen is removed and sent to the pathologist. However, prior to surgery the cancer can be staged by clinical and radiologic information as well, which allows for accurate medical and surgical treatment planning. In general, Stage I and II depends on the depth of tumor invasion, Stage III includes lymph node metastases, and Stage IV is distant metastatic disease.

Proper bowel preparation and preoperative administration of antibiotics is important in elective procedures. Popular thought dictates that a diagnosis of colorectal cancer mandates a colostomy, which is not always true. Often, a colostomy is reserved for those cancer patients who present with complete intestinal obstruction, or to allow for adequate healing of an anastomosis.

Once the location is known and diagnosis made, the surgical procedure can be tailored to the patient. For colon cancer, resection of the involved colonic segment and associated mesentery is performed. The mesenteric resection is important as this is where the regional lymph nodes are contained and can change the N stage of the cancer. If the characteristics of a rectal cancer fulfill certain criteria then it can be locally excised by a trans-anal approach, limiting the morbidity of a long and complex operation.

As previously alluded, the surgical approach of rectal cancer depends on the distance from the anus as well as size of the tumor. A low anterior resection (LAR) may be used to remove a majority of the rectum and provide intestinal continuity. If the cancer is close to the anus then an abdominal perineal resection (APR) may be the only choice available. This operation involves removal of the rectum and anus, and provides for a permanent colostomy. The similarity of these two procedures is the mesorectal excision, which removes the associated lymphatic drainage areas and is a very important part of the operation. There has been a recent trend to provide preoperative chemotherapy and radiation therapy to those patients who were previously candidates for an APR, which may allow for a LAR, obviating the need for a permanent colostomy.

Minimally invasive techniques have become popular with the advent of laparoscopic cholecystectomies. The success of these procedures has led to the development of laparoscopic operations for colon cancer. A recent article from The New England Journal of Medicine provided a comparison of laparoscopically assisted and open colectomy in patients with colon cancer and concluded that the time to recurrence, overall survival, complication, and reoperation rate were the same between the two groups. The laparoscopic surgery group had a shorter hospital stay and briefer use of narcotics.

Some patients with colorectal cancer will develop metastatic disease to the liver or lungs; however, they may still be candidates for surgical intervention. Video assisted thorascopic surgery (VATS) allows for minimally invasive surgery of the lungs. Liver tumors can be resected, ablated with intense radio waves, or even frozen. Blood loss during resection of liver

tumors is minimized with a new technique, which radio-ablates the surrounding liver tissue. In addition, chemotherapy can be instilled directly into the liver utilizing a hepatic arterial infusion pump (HAI).

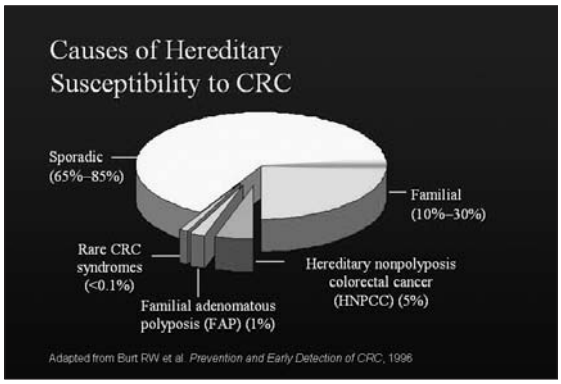
Surgery is the mainstay of treatment for colon and rectal cancer and is tailored to each patient. The surgeon works as part of a team in conjunction with the medical oncologist and the radiation oncologist to provide a multimodality approach to care of the cancer patient. There are many novel techniques and devices available to remove the colorectal cancer and treat metastatic cancer and these are available at Riverside Regional Medical Center.

The Medical Oncologist

Mashour Yousef, MD
Peninsula Cancer Institute

Colorectal cancer is the third most frequently diagnosed cancer in men and women in the united states, with estimated 106,000 new cases will be diagnosed in 2005, of whom more than 56,000 will die from their cancer.

The etiology of colorectal cancer is unknown with implications of dietary factors, alcohol and tobacco use, and genetic alterations. Known genetic syndromes are familial adenomatous polyposis (FAP), hereditary nonpolyposis colorectal cancer (HNPCC), Gardner's syndrome, and Turcot's syndrome. Nevertheless, 65-85 % of colorectal cancer cases are sporadic with no known familial association.



Colorectal cancer prevention trials have demonstrated limited benefits, such as dietary modifications (reduction in fat consumption, and increased fiber intake), increased vitamins and minerals intake, or addition to lifestyle modifications. A recent report from Nurses' Health Study confirmed that the regular, long-term aspirin use could reduce the risk of colorectal cancer. Non-aspirin non-steroidal anti-inflammatory drugs (NSAIDs) appear to have a similar effect. However, the optimal chemoprevention for colorectal cancer requires long-term use of aspirin doses substantially higher than those recommended for prevention of cardiovascular disease, but the dose-related risk of GI bleeding must also be taken into account.

A recent improvement in colorectal cancer-related mortality has been credited to the utilization of screening programs, which allow the removal of adenomatous polyps (precancerous polyps), and early detection and treatment of locally advanced disease. The best screening approach includes screening of men and women over age 50 with average risk utilizing one or combination of the following procedures: a fecal occult blood test (FOBT), a flexible sigmoidoscopy (FSIG), a double- contrast barium enema, and colonoscopy.

The prognosis of patients with colorectal cancer is clearly related to the degree of penetration of cancer through the bowel wall, the status of nodal involvement, and the presence or absence of distant metastases (mostly liver, lymph nodes, lung, abdominal cavity, bone, and brain). The presences of bowel perforation or obstruction, as well as an elevated level of carcinoembryonic antigen (CEA), convey poor prognostic features.

The role of the medical oncologist in colorectal cancer management has evolved into conducting the variety of treatment modalities available to patients inflicted with this disease, and coordinating the multiple therapeutic approaches that applied by different specialists, including the surgeon, radiation oncologist, and medical oncologist.

In locally advanced rectal cancer, pre-operative (neoadjuvant) chemoradiation treatment utilizing 5-fluorouracil (5 -FU)- based chemotherapy has been shown to increase the resectability of locally advanced disease, improve the chance of sphincter preservation, decrease the long term toxicities and complications of treatment, and improve the quality of life for patients

with locally advanced disease. However, there was no statistical difference in survival benefits compared with postoperative (adjuvant) chemoradiation treatment.

The treatment of colon cancer is based on the ultimate staging of the disease, with surgical intervention serving as the primary modality in stage I and II disease, while postoperative (adjuvant) chemotherapy is widely utilized in node positive disease (stage III disease), since those patients face a 50-60 % chance of developing recurrent disease. Adjuvant chemotherapy treatment can decrease the chance of death by 30-45 %, with 10-15 % absolute improvement in 5-year survival. The NIH panel did not recommend any specific postoperative therapy for stage II patients outside of clinical trials including high risk patients. Chemotherapy is the primary treatment for patients with metastatic colorectal cancer (Stage IV disease), with a limited role for radiation treatment and surgical intervention in localized metastatic disease. The choice of chemotherapy in the adjuvant setting has evolved from 5- FU -based chemotherapy (5-FU+ levamisole followed by 5-FU + Leucovorin), to the recently widely utilized adjuvant treatment with Oxaloplatin-based chemotherapy (FOLFOX regimens), while Irinotecan-based adjuvant treatments (IFL, and FOLFIRI) have been disappointing to date. The median survival for advanced colorectal cancer has improved dramatically from 6 months in 1950s to more than 25 months in 2004. 5-FU/LCV had been the standard for metastatic colorectal cancer for more than 30 years until the approval of Irinotecan (CPT-11) as second line treatment in October 1998, followed by the approval of Capecitabine (Xeloda) in May 2001, and Oxaloplatin in August 2002. These agents moved quickly to the first line treatment in different combinations (IFL, FOLFOX, FOLFIRI, IROX, and XELOX), with FOLFIRI followed by FOLFOX or vice versa being the most favorable approach in prolonging DFS and OS compared with other regimens, with similar safety and efficacy, but with different toxicity profiles.

In 2004, the FDA approved two agents for metastatic colorectal cancer. The first agent, Cetuximab (Erbitux), is an anti epidermal growth factor receptor (EGFR) antibody, and is indicated alone, or in combination with irinotecan, for patients who are refractory to irinotecan-based chemotherapy. The second agent, Bevacizumab (Avastin), is a humanized monoclonal antibody against vascular endothelial growth factor (VEGF) and its receptors, and it was approved in March 2004 as a combination treatment with 5-FU-based CTX for second line treatment of metastatic colorectal cancer. Recently, it has been utilized in first line treatments in combination with FOLFIRI or FOLFOX.

Future directions of treatment include more molecular-targeted therapies, and gene therapy approaches, including virus-directed enzyme therapy, gene correction, immunogenic manipulation, and viral therapy, in addition to the exciting patient-tailored treatment approach, based on the patient's genetic and molecular profile.

It is extremely essential to keep enrolling patients in the various clinical trials available for colorectal cancer, which can accelerate the answers for many pending questions about the optimal treatment and the best approach for patients inflicted with this disease. Many of these trials are readily available at the local and regional oncology practices.

The Radiation Oncologist

Joseph Layser, MD
Peninsula Radiation Oncology

Radiation Therapy is the use of high energy x-rays to eradicate tumors or to prevent recurrences. These x-ray beams are produced on machines called linear accelerators. The beams are essentially x-rays, but of sufficiently high energy so as to be able to destroy tumor cells. When a series of treatments is given we can anticipate that a certain percentage of tumor cells will be destroyed with each treatment with the hopes that by conclusion of therapy, all cancer cells would be eradicated.

Colon cancer is usually an adenocarcinoma and radiation therapy is known to have some success with adenocarcinomas in general, and colon and rectal tumors specifically. In most cases, the surgeon will be able to remove the tumor with sufficiently clear margins and radiation will not be needed. However,

in large tumors, which by staging would be considered stage III or stage IV, radiation is sometimes of value. Usually, if the surgeon notes the tumor to be growing out from the colon and into the abdominal wall or into an adjacent organ, the tumor will be removed and clips will be left to outline the area that might be at high risk for recurrence. In that setting, radiation over a 5 to 6 week period is able to eliminate many of these recurrences.

Side effects can occur with a course of radiation and would be dependent on normal structures within the region. The skin and abdominal wall can become sore. Intestinal tissues may react with the development of nausea, diarrhea, or abdominal pain. Efforts would need to be made to protect intra-abdominal organs such as the liver, kidneys, or bladder from receiving excess treatment. Side effects generally will be temporary and complications can be kept to a minimum with careful treatment planning. When radiation is used after resection of a colon cancer, it is usually in coordination with chemotherapy, which would be under the direction of a medical oncologist. Both 5-Fluorouracil and platinum-based chemotherapies are known to be radiosensitizers and can help us achieve our goals.

Radiation is also used in the treatment of metastatic disease from colon cancer. The most common site of metastatic disease is in the liver and this area is generally treated first with chemotherapy; however, we have occasionally been called up to treat lesions that are bleeding or painful. More commonly, radiation is used for metastatic disease in a bone, which may be causing pain or may be growing in the spine near some nerves. We have treated patients with disease in the chest area and in the brain with some success. Generally speaking, a course of radiation for palliation of metastatic disease is shorter and more easily tolerated by the patient often in as little as 2 to 3 weeks. Individual patients may have a variety of presentations and treatments will often be complex and require a variety of specialists. As radiation oncologists, we need to work closely with surgeons and medical oncologists to achieve best patient outcomes.

The Future of Colon Cancer

Guy Tillinghast, MD
Peninsula Cancer Institute

As the population grows older, the number of patients with colorectal cancer will increase. In 2000, only 39% of the population over 50 was screened for colorectal cancer. In the future, improvements in health from colorectal cancer may occur through improved patient education and increased screening. Screening has been shown to be effective. For a cost of mere pennies through yearly stool guiac cards, lives can be saved. As smoking is linked to colorectal cancer development, improvements in smoking cessation programs may have an impact on colorectal mortality.

With regard to genetic screening, more knowledge about specific mutations and their propensity for causing colorectal cancer (penetrance) will become known in the future. Also in the future, more is expected to be learned about the interaction of various genes, which modify cancer risk. Single nucleotide polymorphisms may enable a refinement of the calculated risk. Interactions with diet and other environmental factors may become known.

One of the exciting new areas in colorectal cancer treatment is likely to be the introduction of genomics into colorectal cancer management. Genomic techniques, such as microarray and RT-PCR, are likely to be developed to determine the best therapy for a patient. At the current time, there are two competing modalities for the treatment of colorectal cancer: Folfox and Folfieri. A genomic test may enable an oncologist to determine which therapy should be offered for a particular patient. Understanding of drug interactions should improve with the use of genomics. Irinotecan activity is influenced by GT1A1, a glucuronidase, which interacts with many drugs. Knowing which drugs these are and avoiding them when patients are on irinotecan therapy is very important. A greater understanding of pharmacogenetics and modifying initial doses of patients based on analysis of single nucleotide polymorphisms.

Advances in laparascopic surgery for colon cancer means that patients can be treated with shorter

hospital stays and concomitant health care savings. However, the guidelines for which patients are appropriate for laparascopic surgery will continue to be defined.

Adjuvant therapy

Whether bevacizumab (Avastin) confers benefits in the adjuvant setting, and whether to the same magnitude as in the metastatic setting is a question that will be answered by the NSABP-C-08 study. Use of EGFR inhibitors may make an appearance in the adjuvant setting (and become first-line in the metastatic setting).

The ability of patients to tolerate the side effects of Folfox therapy has been a challenge. The OPTIMOX approach, which was developed in the metastatic setting and which gave patients a break from oxaliplatin, may become adopted in the adjuvant setting. Whether the fluorouracil bolus can be eliminated may also be decided in the future. The fluorouracil bolus gives elderly patients a lot of toxicity. An alternative approach may see capecitabine (Xeloda) replacing infusional fluorouracil in combination regimens. Although Xeloda was found to be slightly better than bolus fluorouracil, whether it is equivalent to infusional fluoruracil remains to be established.

With regard to adjuvant therapy for rectal cancer, NSABP-R-04 will tell us whether capectabine can be used with radiation. Currently, infusion fluorouracil is used, tying patients to a pump. Further studies may define whether anti-EGFR antibodies do a better job than capecitabine in combination with radiation. The use of anti-EGFR antibodies has had dramatic results in head and neck cancer, with a near doubling in the survival. The lessons learned in head and neck cancer will likely be applied to rectal cancer. Exciting data has also emerged with regard to the use of bevacizumab in neoadjuvant rectal cancer treatment, with many complete pathologic remissions noted. However, the role of neoadjuvant therapy in the treatment of rectal cancer will need to be defined in the future. Agents such as bevacizumab which may be expected to greatly enhance neoadjuvant therapy, will encounter the difficulty of needing to be stopped sixty days before surgery, so as not to interfere with wound healing. Nevertheless, do not be surprised if bevacizumab/anti-EGFR antibody/radiation becomes the future standard therapy.

Metastatic disease

There has been a spate of new therapies, moving the median survival past the two-year boundary for metastatic disease. Alterations in the scheduling of Xeloda, in particular, whether the one-week on/one-week off regimen are currently being evaluated and may become adopted. As cancers age, there is a transition from VEGFalpha to other pro-angiogenic growth factors. Since anti-VEGFalpha antibodies (i.e. bevacizumab) have been so successful (but interestingly, less successful in later lines of treatment) newer antibodies can be developed which target these later-appearing growth factors, such that an ability to inhibit colorectal cancer is afforded in advanced stage and after multiple lines of therapy.

Now that chemotherapy for metastatic colorectal cancer is doing better, there will be an evolution in approaches to patients with liver metastases. Radiofrequency ablation has a less than 10 percent complication rate. These include abscess, bleeding from the needle track, bile duct strictures, bile duct fistulae. With regard to intrahepatic infusion, two major studies suggested FUDR after hepatic resection was beneficial, but performed before the era of oxaliplatin and irinotecan. The NSABP-C-09 is attempting to address the issue of whether intrahepatic FUDR can enhance the effects of oxaliplatin.

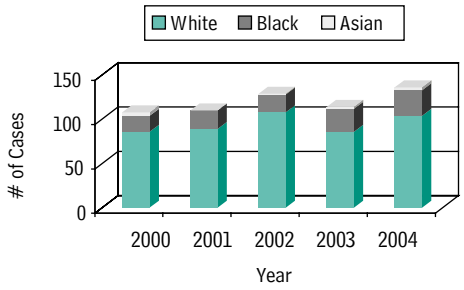
Finally, the future will likely see improvements in the geriatric assessment and in tailoring therapy based on comorbidities.

Riverside Cancer Registry Data

Colorectal Cancer Cases 2000-2004 by Gender

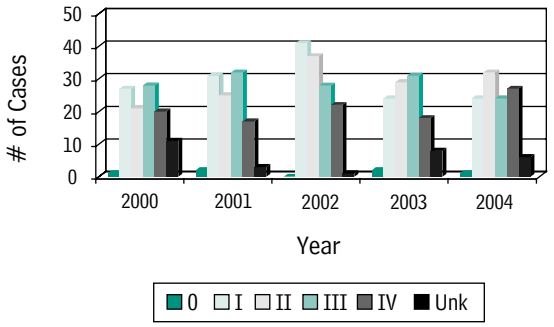
From 2000 to 2003, more men than women were diagnosed with colorectal cancer at Riverside Regional Medical Center. However, this trend was reversed in 2004 with more female cases than male cases. This could be due to females being more likely to see a physician than males.

Colorectal Cancer Cases 2000-2004 by Race



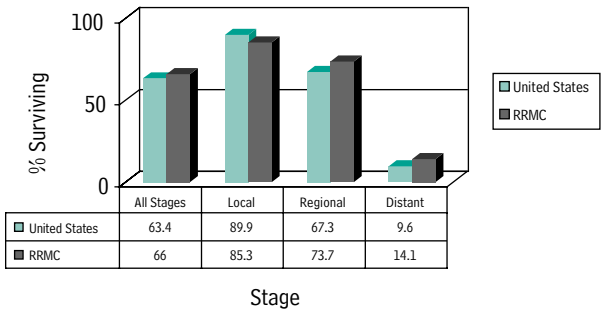
From 2000 to 2004, colorectal cancer among whites had the highest incidence followed by African Americans and Asians. This reflects the demographic make-up of the local area.

Colorectal Cancer Cases 2000-2004 by Stage of Cancer



Stage I and stage II colorectal cancers increased to its highest caseload in 2002 and currently account for 46% of all analytic colorectal cancer cases. Unfortunately, stage IV colorectal cancers peaked in 2004. It is recommended that all patients over 50 should receive a colonoscopy every 5 years. If compliance increases, hopefully, stage III and IV colorectal cancers will decrease.

Colorectal Cancer Five Year Relative Survival Rates by Stage and Diagnosis 1995 - 2000 (US vs. RRMC)



Colorectal cancer survival rates for RRMC were compared to national data derived from the National Cancer Data Base. RRMC's 5-year survival rate for regional (II, III) and distant (IV) stages was higher than the national average. Survival for local stages (0, I) was slightly lower at RRMC. Note that these rates are not adjusted for co-morbid factors, such as diabetes or heart disease, which can significantly impact survival rates.

Prostate Cancer Treatment at Riverside Regional Medical Center

Scott Burgess, MD
Urology of Virginia

Prostate cancer is the number one cause of non-cutaneous cancers diagnosed in men. In fact, prostate cancer accounts for one-third of all malignancies diagnosed in men. While one in seven men will be diagnosed with prostate cancer during their lifetime, only one in twenty-six will ultimately die from the disease. It is estimated that 30,000 men will die from prostate cancer in the United States in 2005 (1).

The introduction of prostate specific antigen (PSA) has allowed prostate cancer detection earlier in the course of the disease. PSA is a serine protease normally produced by prostatic epithelial cells. Ultrastructural damage, associated with disorganized cancerous growth, is the cause of elevated serum levels found in men with prostate cancer.

The diagnosis of prostate cancer is usually made after transrectal ultrasound and prostate biopsy. Indications for biopsy include an elevated PSA or an abnormal digital rectal examination. To complete preoperative staging, an abdominal CT scan and nuclear bone imaging are sometimes done to evaluate for metastatic disease.

Treatment decisions are ultimately made after considering the Gleason grade of the tumor and stage of disease. Patients with organ-confined disease (Stage T1-2) can be treated with surgery, radiation, hormonal ablation, or watchful waiting in selected patients. Higher risk patients (T3-T4) often require adjuvant treatment after initial surgery or radiation. Increasingly, older patients (>70) with low stage and grade disease are being offered watchful waiting as an alternative to more aggressive treatment, as this group has a much lower likelihood of succumbing to their prostate cancer.

Surgical removal of the prostate is still considered the gold standard for many patients with prostate cancer. Various techniques are available for prostatectomy. Most urologists feel very comfortable with traditional radical retropubic prostatectomy. Other options include perineal and laparoscopic prostatectomy. The Da Vinci surgical robot (Intuitive Surgical, Sunnyvale, California), offers several advantages to open prostatectomy, both for the patient and the surgeon. The robot affords the surgeon three-dimensional vision, up to ten-times magnification and unsurpassed precision, due to the EndowristTM technology, which mimics the normal surgical motions of the human hand. This has led to reductions in postoperative pain and shortened hospital stays and catheter time. Due to the exceptional visualization, the neurovascular bundles that control erectile activity and possibly postoperative continence have a better chance of being preserved. Currently, Riverside Regional Medical Center has the only Da Vinci surgical system on the Peninsula.

A smaller percentage of patients are being diagnosed with advanced prostate carcinoma. For patients with advanced cancer and those with recurrent disease after either surgery or radiotherapy, the standard of care continues to be hormonal therapy. Intramuscular injections of GnRH agonist, with or without anti-androgen, suppress the testosterone needed for prostate cancer cells to grow. Unfortunately, many tumors become hormone-resistant within a few years of hormonal blockade initiation. Over the last several years, there has been encouraging research done on chemotherapy for advanced prostate cancer. Additional areas of research have included tumor vaccines, and estrogen-receptor modulators.

Prostate cancer diagnosis and treatment will undoubtedly increase over the next decade as the "baby boomer" generation reaches retirement age. Technologic improvements, combined with a better understanding of the natural history of the disease, should lead to better outcomes for men diagnosed with this disease.

Andrew Lauve, MD
Peninsula Radiation Oncology

One in six American men will develop prostate cancer in their lifetime. 40% of men over 50 years old and 70% men over 80 years old have the disease. 189,000 new cases were reported in

2002, and 30,200 died of the disease. Of all cancers, only lung cancer claims more men's lives.

The number of patients diagnosed with prostate cancer each year has doubled since the advent of prostate specific antigen (PSA) screening in the late 1980's, due primarily to the early detection of disease. PSA is a protein that is only produced in normal and cancerous prostate cells. Abnormally high PSA in the blood may suggest the presence of a cancer, and biopsy may be indicated.

The American Cancer Society recommends PSA blood test and DRE (digital rectal exam) yearly, beginning at age 50, to men who do not have any major medical problems and can be expected to live at least 10 more years. Men at high risk should begin testing at age 45. Men at high risk include African Americans and men who have a close relative (father, brother, or son) who had prostate cancer before age 65. Because the prostate grows throughout life, the normal PSA range increases with age.

PSA upper limit of normal is age-dependant

Age	40-49	50-59	60-69	70-79
PSA	2.0	3.5	5.0	6.5

Newly diagnosed patients with no evidence of metastatic disease can be grouped using clinical and pathological factors that are of prognostic significance and help determine the most appropriate treatment. These factors include the patient's PSA value, rate of rise of his PSA, Gleason's score (microscopic appearance of aggressiveness), and findings on digital rectal exam. Risk groups - low, intermediate, and high - refer to the likelihood that cancer has spread beyond the prostate.

	Low Risk (all)	Intermediate Risk	High Risk (any)
Highest PSA	< 10	10-20	> 20
PSA Doubling Time	> 1 year		<1 year
Gleason score	<7	7	>7
DRE Findings	< 1/4 gland involved tumor confined to prostate		Extension of tumor beyond prostate

Low Risk Patients have an 85-95% chance of prostate-confined cancer. Thus, any treatment which adequately addresses the prostate will confer a high likelihood of cure (>90%), including surgery, radioactive seed implantation, and external beam radiation (including Intensity Modulated Radiotherapy – IMRT). A patient can select the most appropriate treatment based on his personal preferences regarding convenience and side-effect profiles.

IMRT is an advanced mode of external beam radiotherapy that uses multiple computer-optimized x-ray beams to precisely conform the radiation dose to the three-dimensional shape of the tumor. This allows for the delivery of a higher radiation dose to the tumor while minimizing radiation exposure to surrounding normal tissues, which has been shown to improve cure rates and reduce treatment related toxicity, respectively. IMRT is available at all three of Riverside's regional radiotherapy centers.

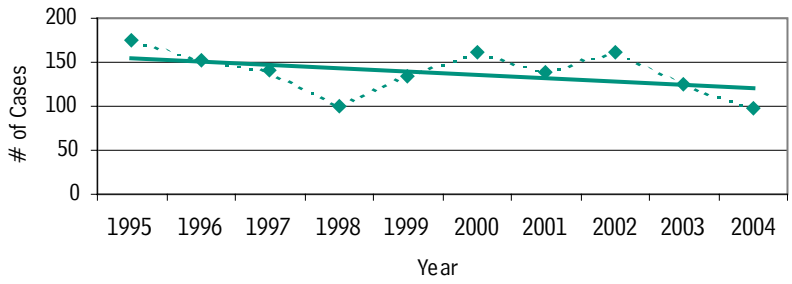
Intermediate Risk Patients are more likely to have spread of the cancer beyond the prostate and are less likely to benefit from those treatments that only address the prostate, e.g. surgery and seed implantation. External beam radiotherapy, on the other hand, is capable of treating all of the at-risk tissue within the pelvis. Intermediate risk patients are the most likely to benefit from higher doses of radiation, making them ideal candidates for IMRT. Hormone therapy before and during the external beam radiation treatment course has been shown to improve control rates in these patients.

High Risk Patients are rarely curable because many have metastatic disease at diagnosis, even if it is not yet detectable. Nevertheless, if there is no evidence of metastatic disease, the combination of external beam radiotherapy (including IMRT) and hormone therapy (before, during and after radiotherapy) does provide local control of disease and is curative in up to one third of patients.

Patients with metastatic disease are not curable, but the cancer can be completely controlled for an average of two to three years using hormonal therapy. Other systemic therapies are then employed, with varying degrees of success. External beam radiotherapy is a very effective means of controlling pain or other symptoms at discrete sites of metastatic disease.

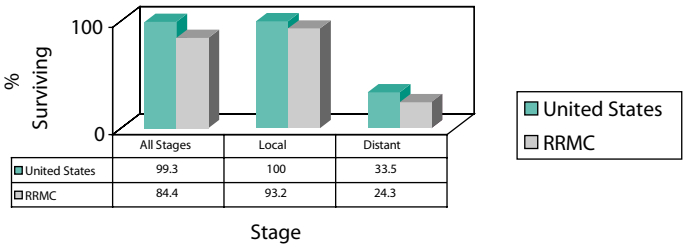
Prostate cancer is a common disease in elderly males, but with appropriate screening and intervention, the vast majority of patients are able to undergo curative treatment. Physicians at Riverside Regional Medical Center are trained and equipped to offer prostate cancer patients the most cutting edge therapies available today, including robotic daVinci surgery, IMRT, and radioactive seed implantation.

Prostate Cancer Cases - 1995-2004



Since 2000, there has been a declining trend in prostate cancer cases accessioned into the Cancer Registry at Riverside Regional Medical Center. However, this is not the overall trend throughout the nation. Prostate cancer cases have actually increased due to the PSA screening of younger men.

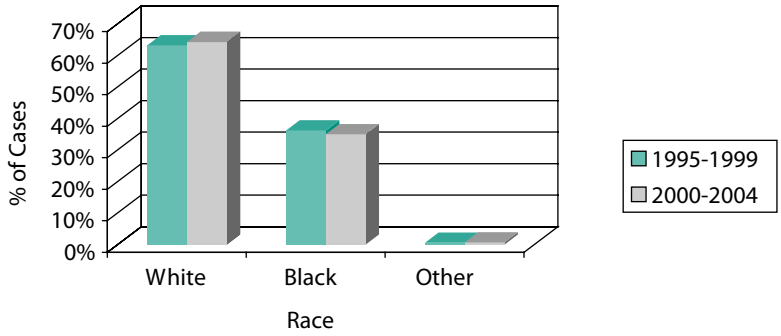
Prostate Cancer Five Year Relative Survival Rates by Stage and Diagnosis 1995 - 2000 (US vs. RRMC)



	All Stages	Local	Distant
United States	99.3	100	33.5
RRMC	84.4	93.2	24.3

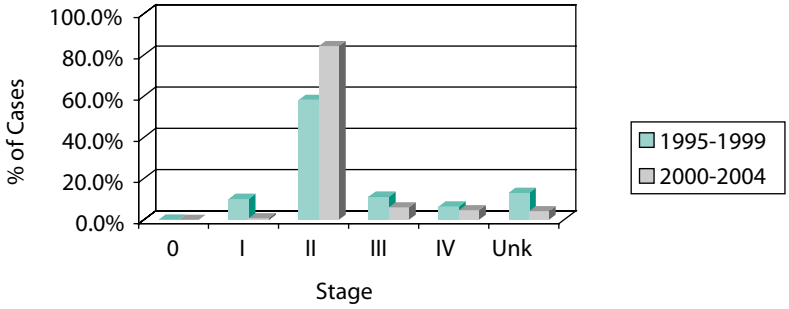
The overwhelming majority of prostate cancers are diagnosed in the local or regional stages. The percent of patients alive five years after diagnosis at Riverside is 93%, while the national rate approaches 100%. It should be noted the national average takes into account the cause of death, while Riverside's data is strictly observed survival. Thus, Riverside's patients could have passed away from numerous other comorbidities and did not necessarily die from cancer.

Comparison of 1995-1999 and 2000-2004 Prostate Cases by Race - %



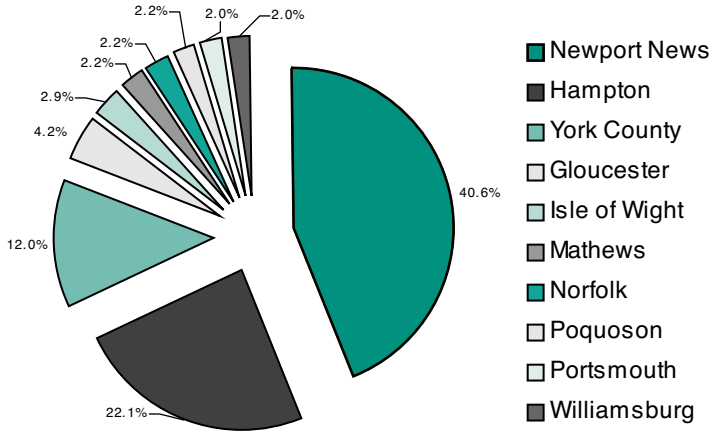
From 1995 to 2004, prostate cancer among whites had the highest incidence followed by African Americans. In the 2000-2004 period, there was a slight increase in the number of white cases, while the number of African American cases slightly decreased.

Prostate Cancer 1995-1999 vs. 2000-2004 Best Stage



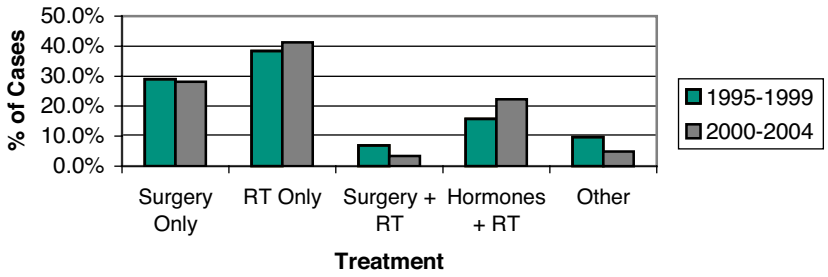
During the 2000-2004 period, over 80% of cases were diagnosed with stage II prostate cancer. This had such a notable increase due to changes in the AJCC staging manual, which were implemented in 2003. Stage III and Stage IV prostate cancer decreased, resulting in a better prognosis for patients diagnosed at Riverside Regional Medical Center.

2000-2004 Prostate Cancer Cases by County at Diagnosis



Between 2000 and 2004, the majority of prostate cancer cases were patients from Newport News and Hampton. Gloucester is a large part of Riverside's service area because Riverside Walter Reed Hospital is located there. Many patients are referred to Newport News for prostatectomies or radioactive seed implant. External beam radiotherapy options (including IMRT) are available at Riverside Middle Peninsula Cancer Center.

First Course of Treatment for Analytic Prostate Cancer Cases 1995-1999 vs. 2000-2004



When comparing data from 2000-2004 to 1995-1999, the primary treatment for prostate cancer at RRMC is still radiation therapy. Patients are also receiving hormone therapies such as Lupron more than in the past. The national percentages are different in that 37% of prostate cancer from 2000-2001 was treated with surgery, while only 21% was treated with radiation. These percentages are almost the exact opposite of RRMC's data.

Glossary of Terms

- ACCESSION -

The addition of new cancer cases to the Riverside Cancer Registry.
Each patient is assigned a separate and permanent accession number.

- CLASS OF CASE -

The determination of a patient's diagnosis and treatment status at first admission to Riverside Regional Medical Center.

Analytic: Any case first diagnosed and/or receiving all or part of the first course of treatment at Riverside (Class 0, 1, 2).

Non-Analytic: Any case diagnosed prior to RRMC's reference date (1/1/79), or diagnosed elsewhere and receiving the first course of treatment at that facility, or diagnosed at autopsy (Class 3, 4,5).

-STAGE OF DISEASE-

A process by which the extent of disease at the time of diagnosis is rated according to a recognized system of classification. This process allows morbidity, mortality and treatment efficacy to be reviewed across similar categories of patients.

Summary Stage: General staging system to categorize most cancer sites.
In situ - Non-invasive cancer. Also termed pre- invasive, non-filtrating, or Stage 0. A cancer in this category has not spread beyond the immediate area of diagnosis.
Local - Tumor confined to tissue of organ of origin.
Regional - Tumor that has spread directly to adjacent organs or tissues and/or to regional lymph nodes, but has spread no further.
Distant - Tumor that has spread to parts of the body remote from the organ of origin.
Unknown - Stage cannot be determined.

TNM Staging: The American Joint Commission on Cancer Staging System is used at RRMC and is based on assessment of three components:
T - Extent of primary tumor.
N - Extent of regional lymph node metastasis.
M - Absence or presence of distant metastasis.

- AGE OF PATIENT -

Analytic cases: Age is recorded in completed years at time of diagnosis.
Non-Analytic cases: Age is recorded as patient's age when first entered into RRMC Cancer Registry.