Table of Contents

A Message from the Director  
2
Cancer Committee 2011  
3
Cancer Conferences 2011  
4
Cancer Registry Report  
5
Quality Measures  
10
Primary Site Table  
12
Cancer Education & Outreach  
13
Cancer Program Services  
15
Cancer Program Partnerships  
15
Special Study on Colorectal Cancer at UMCP  
16
A Message from the Director

The University Medical Center at Princeton Cancer Program was surveyed in May by the American College of Surgeons’ Commission on Cancer and was re-accredited as a Teaching Hospital Cancer Program with Commendation. We are awaiting announcement of the 2011 Outstanding Achievement Award winners and are confident we will be among them.

During 2011 the Cancer Program began to prepare for our move to the new University Medical Center of Princeton at Plainsboro (UMCPP). Housed in the new Edward and Marie Matthews Center for Cancer Care at UMCPP will be Radiation Oncology, which will include a state-of-the-art Varian True Beam linear accelerator, and an expanded Outpatient Infusion area that will overlook a healing garden. The Center will also include space for supportive services and complementary medicine.

Supportive services programs were expanded to include additional complementary medicine services this year. The programs were well attended and as a result we have plans to expand our complementary medicine offerings even further when we move to the new facility. We continued to provide early detection screenings for prostate and skin cancer. Ninety-one men were screened for prostate cancer in conjunction with the Prostate Conditions Education Council. Approximately 110 people were screened for skin cancer. These very popular free screenings continue to grow each year.

Our Cancer Registry participated in the American College of Surgeons’ Commission on Cancer Rapid Quality Reporting System (RQRS) beta test. RQRS is a reporting and quality improvement tool that provides real-time assessment of hospitals’ level of adherence to National Quality Forum (NQF)–endorsed quality of care measures for breast and colorectal cancers. Our results exceeded national benchmarks for all measures.

The cancer program staff continues to be leaders in their professions, serving as president of the local Oncology Nursing Society chapter, administrator of the National Cancer Registrars Association Council on Certification, and chairs of various oncology nursing and cancer registry committees. All of our Outpatient Infusion and Radiation Oncology nurses are OCN certified.

We look forward to continuing to provide outstanding patient care for our patients in our new Edward and Marie Matthews Center for Cancer Care.

Judy Neuman, CTR
Director, Cancer Services
Cancer Committee 2011

Marc Schwarzman, MD
Urologist
Cancer Committee Chair

Douglas A. Fein, MD
Radiation Oncologist
Cancer Liaison Physician

David B. Sokol, MD
Medical Oncologist
Cancer Conference Coordinator

Judy Neuman, CTR
Director, Cancer Services
Cancer Registry Data Quality Control Coordinator

Augusta Agalaba, RN, MSN*
Performance Improvement
Quality Improvement Coordinator

Sheryl Smolensky, RN
Cancer Program Nurse
Outreach Coordinator

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Cancer Registry

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Radiation Oncology

Doreen Babott, MD
Medical Oncologist

Elizabeth Beckett, RN, BSN, OCN
Outpatient Infusion

Lynne Bennett, RN, BSN, CPHQ*
Performance Improvement

Inez Brandon, RN, MSN, OCN, CHPN*
Palliative Care

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Pharmacy

Denise Dacey, RD, CDE
Nutrition Services

Sara DaCruz, MSW, LSW
Social Services

Rachel R. Dultz, MD
Breast Surgeon

Molly Gabel, MD
Cancer Institute of New Jersey (CINJ) Liaison
Oncology, Pharmacy

Katherine R. Geverd, BA, CTR
Cancer Registry

Fiordaliza Gomez
American Cancer Society

Carol Grim
Home Care/Hospice

Jesse Hagmeyer, RPh*
Pharmacy

John Heim, MD
Thoracic Surgeon

Jayanti Ingle, DPT, MPH
Rehabilitation

Seth Joseffer, MD
Neurosurgeon

Beth-Ann Kerber
Marketing/Public Affairs

Beth Krefski, RN, MSN
Director, Breast Health Center

Bernard B. O'Malley, MD
Radiology

Rev. Cheryl Regis
Pastoral Care

Deborah J. Richey, RN, OCN, Med*
Nurse Manager, Cancer Center

Linda Sieglen, MD
Sr. Vice President, Medical Affairs

Humility Sumayang, BSN-RN, BC
Nursing, Inpatient

Susan Tronto, RN
Case Management

Craig Van Uitert, MD
Pathologist

Peter Yi, MD
Medical Oncologist

*Partial-year member

The success of the cancer program depends on an effective, multidisciplinary cancer committee. The UMCP Cancer Committee is composed of physician representatives from the diagnostic and treatment specialties, as well as non-physicians from supportive services involved in the care of cancer patients. The Committee meets regularly, setting cancer program goals, as well as reviewing and evaluating the planning and implementation of all cancer-related activities at UMCP.
UMCP holds weekly General and Breast Cancer Conferences aimed at ensuring the most appropriate, personalized care is provided to all cancer patients. The Cancer Conference is a prospective, multidisciplinary, team-oriented approach to providing patient-centered treatment planning. Radiologists, pathologists, medical and radiation oncologists, surgeons, nurses and other specialists review the details of each patient’s case. They use staging, prognostic indicators and national evidence-based treatment guidelines in their discussion of treatment options and develop recommendation tailored to the needs of the individual.

**Other Medical Conferences with Cancer-related Topics:**

- *Overcoming Barriers to Optimal Treatment of Non-Hodgkin’s Lymphoma*, Andre H. Goy, MD (June 21, 2011)
- *Critical Endpoints of NHL and CLL Studies*, Lisa Downs, MSN, CRNP (September 12, 2011)
- *Advances in Interventional Oncology*, William Parker, MD (October 11, 2011)

**Figure 1. Cases Presented at Cancer Conference 2010 as % of total caseload**

- Breast: 35%
- Prostate: 20%
- Colorectal: 15%
- Lung: 10%
- Bladder: 5%
- Other: 5%
Cancer Registry Report

The UMCP Cancer Registry was established in 1962 to collect information on cancer patients within Princeton HealthCare System for the purposes of evaluating the effectiveness of cancer treatments. At that time, just a handful of data elements were painstakingly, manually recorded in paper records. The UMCP Cancer Registry now collects more than 600 unique data elements on each new cancer. In 2010, the Cancer Registry collected 1,079 new cases; 829 were diagnosed and/or primarily treated at UMCP (analytic) and 250 received their diagnosis and first course of treatment elsewhere, but received some form of cancer care at UMCP (non-analytic). To date, the Cancer Registry database contains demographic, sociologic, diagnostic, and therapeutic information on 21,812 patients and 23,912 individual cancers. The status of every eligible case is reviewed at least annually to ensure continued medical surveillance and to provide meaningful outcomes data. Follow-up rates at the UMCP Cancer Registry exceed the requirements set forth by the American College of Surgeons’ Commission on Cancer (CoC) Standards for Cancer Program Accreditation. Eligible cases are reported monthly to the New Jersey State Cancer Registry, as required by law, and to the National Cancer Data Base, annually. These aggregated data are used to inform decision-makers at the state and national levels, to aid in resource allocation, and serve as the basis for evidence-based practice in cancer control activities.

The Cancer Registry also coordinates the Cancer Program’s CoC Accreditation. UMCP was first accredited in 1997. In 2011, UMCP was awarded the highest level of accreditation.

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### Figure 2.
Top 5 Cancer Sites for 2010*

<table>
<thead>
<tr>
<th>Site</th>
<th>UMCP %</th>
<th>NJ %</th>
<th>US %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>26.9</td>
<td>14.2</td>
<td>13.5</td>
</tr>
<tr>
<td>Prostate</td>
<td>10.1</td>
<td>14.1</td>
<td>14.5</td>
</tr>
<tr>
<td>Colon &amp; Rectum</td>
<td>8.8</td>
<td>9.2</td>
<td>9.3</td>
</tr>
<tr>
<td>Lung &amp; Bronchus</td>
<td>7.9</td>
<td>13.0</td>
<td>14.2</td>
</tr>
<tr>
<td>Bladder</td>
<td>7.1</td>
<td>5.2</td>
<td>4.6</td>
</tr>
</tbody>
</table>


CoC Accreditation endures that the cancer patient receives:

- Comprehensive care including a complete range of state-of-the-art services and equipment
- A multidisciplinary team approach to coordinate the best available treatment options
- Information about ongoing cancer clinical trials and new treatment options
- Access to prevention and early detection programs, cancer education, and support services
- A cancer registry that offers lifelong patient follow-up
- Ongoing monitoring and improvements in cancer care
- Quality care, close to home

### Figure 3.
Total Cancer Cases per Year at UMCP

<table>
<thead>
<tr>
<th>Year of First Contact</th>
<th>Non-Analytic</th>
<th>Analytic</th>
</tr>
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<tbody>
<tr>
<td>1996</td>
<td>800</td>
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<tr>
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<td>2007</td>
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<td>2009</td>
<td>800</td>
<td>600</td>
</tr>
<tr>
<td>2010</td>
<td>800</td>
<td>600</td>
</tr>
</tbody>
</table>
Over the last decade, the number of new breast cancer cases seen at UMCP has increased steadily, while the number of new prostate cancer cases has declined. The number of new colorectal, lung and bladder cancers has remained relatively stable, while the number of thyroid cancers has increased somewhat. (See Figure 4.)

Cancer affects men and women in different ways. Biological and lifestyle factors play a role in the body’s risk of developing cancer, and these factors often differ between men and women. For example, men had historically higher incidence rates of lung cancer due to higher rates of smoking among men. But as more women began smoking, the rate of lung cancer among women rose. Today, lung cancer is the second most common cancer among both men and women nationwide. (See Figure 5.) At UMCP, however, cancer of the lung is the fourth most common cancer, after prostate, colorectal and bladder cancers in men and after breast, colorectal and thyroid cancers in women.
Approximately one-third of all women with cancer at UMCP in 2010 were diagnosed with stage I disease, while an approximately equal proportion of men were diagnosed at stage II. Overall, the majority of patients (59% of men and 72% of women) were diagnosed in early stages (0, I or II). However, the proportion of men diagnosed with stage IV cancer was twice that of women.

Cancer risk increases with age. The median age of cancer diagnosis in New Jersey is 67 for men and 66 for women. At UMCP, the median age of cancer diagnosis in 2010 was 68 for men and 63 for women.

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UMCP Cancer Distribution

While more than half of patients who visit UMCP for cancer care are residents of Mercer County, many come from all over New Jersey, as well as outside the state. Ninety-three percent of patients are from the surrounding six counties: Burlington, Hunterdon, Mercer, Middlesex, Monmouth and Somerset. Five percent reside in other N.J. counties, and the remainder live outside New Jersey.

New Jersey Cancer Facts

Population: 8,791,894
Median Population Age: 39
Number of New Cancers: 48,100
Median Age at Cancer Diagnosis: 67
Cancer Incidence Rate per 100,000:
- Males: 598.2
- Females: 451.2
Cancer Mortality Rate per 100,000:
- Males: 222.5
- Females: 163.2

Sources:
U.S. Census Bureau, 2010 American Community Survey
American Cancer Society, Cancer Facts & Figures 2011

Figure 8 displays the distribution of age at cancer diagnosis for both men and women at UMCP.
Cancer Registry

Cancer Registry 2011 Accomplishments

- Submitted more than 5,000 required records timely and free of errors to the National Cancer Data Base (NCDB).
- Participated in Commission on Cancer accreditation survey, receiving no deficiencies and all eight commendations.
- Transitioned to paperless E-Path pathology monitoring console and MOSAIQ Connect radiation oncology software.
- Maintained current follow-up on 81% of all cancer patients diagnosed since 1983 and 93% of patients diagnosed in the past five years.
- Participated as a beta test site in the NCDB’s Rapid Quality Reporting System (RQRS).
- Recipient of New Jersey State Cancer Registry Award for Excellence in Timely & Complete Cancer Case Reporting.
- Participated in Centers for Disease Control and Prevention (CDC)/National Program of Cancer Registries (NPCR) Data Quality Audit.
- Participated in initial application and survey for National Accreditation Program of Breast Centers (NAPBC).
- Increased collection of adjuvant hormone therapy treatment information for breast cancer patients to above benchmark level.
- Participated in CINJ Survivorship & Quality Task Force.
- Began implementation of 2012 CoC Cancer Program Standards.
- Supplied data by request for use by UMCP physicians, administration, marketing, education and cancer conference.
- Provided orientation to new nursing staff.

Through its commitment to quality cancer care, the UMCP Cancer Registry conducted a number of studies of quality in 2011:

- **Timing of Adjuvant Chemotherapy in Colon Cancer Patients**
- **Use of Clinical Stage, Prognostic Indicators and Evidence-based Treatment Guidelines in Planning First Course of Treatment for Patients with Primary Small Cell and Non-Small Cell Carcinoma of the Lung**
- **Time from Diagnosis to Initial Surgery in Patients Receiving Surgical Resection for Breast Cancer at UMCP 2006 - 2010**
- **Time from Definitive Surgery to Initiation of Adjuvant Chemotherapy in Patients Diagnosed with Early Stage Breast Cancer**

Cancer Registry Staff Involvement

The UMCP Cancer Registry staff values education and professional involvement. All registry staff at UMCP are Certified Tumor Registrars (CTR), specially trained and certified cancer data specialists. They hold leadership positions in both the state and national cancer registrars associations, and have served as mentors and educators to CTRs throughout New Jersey and beyond. In 2011, UMCP Cancer Registrars were invited to speak at both state and national events:


UMCP Cancer Registrars are also continually attending educational activities to broaden their knowledge and skills and to maintain the CTR credential:

- **Survey Savvy Workshop,** Chicago, IL
- **Elekta Cancer Registry Users Meeting,** Lake Buena Vista, FL
- **National Cancer Registrars Association Annual Meeting,** Lake Buena Vista, FL
- **Elekta Cancer Registry Users Meeting,** Princeton, NJ
- **Elekta Cancer Registry Users Meeting,** Linthicum, MD
- **Oncology Registrars Association of NJ Annual Meeting,** Atlantic City, NJ
Quality Measures

The National Quality Forum (NQF) has endorsed four core measures of quality, known as accountability measures, designed to assess performance at the hospital level. The four measures are:

1.) Radiation therapy is administered within one year (365 days) of diagnosis for women under age 70 receiving breast conserving surgery for breast cancer. (BCS)

2.) Combination chemotherapy is considered or administered within four months (120 days) of diagnosis for women under 70 with AJCC T1cN0M0, or Stage II or III hormone receptor negative breast cancer. (MAC)
3.) Tamoxifen or third generation aromatase inhibitor is considered or administered within one year (365 days) of diagnosis for women with AJCC T1cN0M0, or Stage II or III hormone receptor positive breast cancer. (HT)

4.) Adjuvant chemotherapy is considered or administered within four months (120 days) of diagnosis for patients under the age of 80 with AJCC Stage III (lymph node positive) colon cancer. (ACT)
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<th>Primary Site</th>
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<th>Female</th>
<th>0</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>Unk or N/A</th>
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<td>Liver &amp; Intrahepatic Bile Duct</td>
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<td>Lung &amp; Bronchus</td>
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<td><strong>Total Respiratory System</strong></td>
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<td>Melanoma -- Skin</td>
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<td>9</td>
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<td>Other Non-Epithelial Skin</td>
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<tr>
<td><strong>Total Skin (Excluding Basal &amp; Squamous)</strong></td>
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<td>3</td>
<td>10</td>
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<td>Breast</td>
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<td>260</td>
<td>65</td>
<td>115</td>
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<td>495</td>
<td>121</td>
<td>214</td>
<td>163</td>
<td>62</td>
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</table>
UMCP is dedicated to community cancer education and outreach. In 2011 we held 73 individual programs aimed at raising cancer awareness in the community. Throughout 2011 more than 1,000 patients, family members, friends and caregivers participated in programs and events. These included a number of new programs as part of a complementary and alternative medicine (CAM) series:

**Top Foods that Fight Cancer**
The year began on an informative note with discussion on foods that help fight cancer. This program was presented by a dietitian with extensive knowledge about the power of food.

**Energy Movement**
Moving from what we eat to how to use the energy gained from our food choices, we learned the healing power of Qi Gong, an exercise technique that incorporates movement and breathing. These simple exercises help increase the body’s natural energy.

**Reiki Healing Touch**
The Japanese art of Reiki uses simple hand placements and visualization techniques to provide many of the same benefits as traditional massage, including reducing stress, stimulating the immune system, increasing energy and relieving pain. This interactive session included a lecture with demonstration from Reiki masters.

**Hypnotherapy for Wellness**
Hypnotherapy programs helped individuals to cope with stress, pain, anxiety, and other side effects or symptoms of cancer diagnosis and treatment.

**Celebrating Strength**
In June we celebrated our patients with *Celebrating Strength: A Celebration of Life for Our Friends Living with and Beyond Cancer* in conjunction with National Cancer Survivors Day. The day was filled with inspirational stories from cancer survivors, informational talks on timely and relevant topics, including *Life After Treatment, Exercising During and After Treatment, Meditation, Spiritual Healing*; and more.

**Acupuncture**
Individuals coping with nausea, pain or other symptoms related to cancer and its treatment may find relief through acupuncture. Used in traditional Chinese medicine for thousands of years, the technique has been shown to stimulate the body’s natural painkillers and increase blood flow.

**The Ins and Outs of Herbs and Supplements**
Many herbs and supplements can interactive with traditional cancer treatments. This interactive discussion addressed the pros and cons of herbs and supplements for individuals diagnosed with cancer, undergoing cancer treatment, or in high-risk groups for developing the disease.

In addition to our educational programs, we continue to expand our four support groups: breast, prostate, general cancer, and head and neck. The monthly meetings range from open discussion to special speakers on relevant topics requested by group participants.

The Cancer Program continues to offer free and low-cost screenings to uninsured and
underinsured members of the community. Regular screening can detect cancer early when treatment is most effective. In 2011, free prostate and skin cancer screenings were provided at the UMCP Outpatient Clinic. Free and low-cost mammograms were provided at the Breast Health Center through a grant from Susan G. Komen for the Cure. In all, over 350 individuals were screened for cancer.

In the upcoming year, we will continue to expand our programs to meet the community’s needs, with new topics including art healing and Pilates. Registration for most events is free of charge.

Following the move to the new facility, the Cancer Program plans to offer more lectures and workshops, as well as to provide Reiki and other complementary and alternative medicine services to patients in conjunction with traditional treatments in outpatient infusion and radiation therapy.
## Cancer Program Services

The UMCP Cancer Program offers a wide array of services for the cancer patient, from the newly diagnosed to the long-term survivor, as well as support services for family and loved ones.

<table>
<thead>
<tr>
<th>Surgical Oncology</th>
<th>Clinical Nutrition Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hematology &amp; Medical Oncology</td>
<td>Patient Navigation</td>
</tr>
<tr>
<td>Radiation Oncology</td>
<td>Clinical Trials</td>
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<tr>
<td>Pathology</td>
<td>Psychosocial Services</td>
</tr>
<tr>
<td>Diagnostic Radiology</td>
<td>Support Groups</td>
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<tr>
<td>Interventional Radiology</td>
<td>Pet Therapy*</td>
</tr>
<tr>
<td>Rehabilitation Services</td>
<td>Free &amp; Low-cost Cancer Screenings&quot;</td>
</tr>
<tr>
<td>Oncology Certified Nursing</td>
<td>Complementary &amp; Alternative Medicine Programs*</td>
</tr>
<tr>
<td>Outpatient Infusion Therapy</td>
<td>Religious Ministries</td>
</tr>
<tr>
<td>Genetic Counseling &amp; Testing*</td>
<td>Educational Seminars</td>
</tr>
<tr>
<td>Lymphedema Therapy</td>
<td></td>
</tr>
</tbody>
</table>

*New program in 2011

* May be subject to eligibility requirements

## Cancer Program Partnerships

The UMCP Cancer Program has formed partnerships with national, state, and community organizations to bring free and low-cost programs and services to cancer patients. UMCP would like to thank the following organizations for their continued partnership:

- American Cancer Society
- CancerCare
- The Cancer Institute of New Jersey
- Community Connection of Princeton HealthCare
- The Elixir Fund
- Mercer County Cancer Coalition
- Operation Bling Foundation
- Princeton Fitness and Wellness Center
- Princeton HealthCare System Foundation
- Susan G. Komen for the Cure
- Cancer Support Community of Central NJ
- YWCA Princeton Breast Cancer Resource Center

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The colon refers to the large intestine from the cecum, where it attaches to the small intestine, to the rectosigmoid junction, where it connects to the rectum. The major segments of the colon are the ascending or “right” colon, the transverse colon, the descending or “left” colon, and the sigmoid colon. Each bend, or flexure, in the colon is named for adjacent organs. The hepatic flexure lies nearest to the liver and is the place where the ascending colon meets the transverse colon. The splenic flexure, named for its proximity to the spleen, is where the transverse and descending colon join. The rectosigmoid is the flexure where the sigmoid colon becomes the rectum.

Colorectal cancer is the third most common cancer among both men and women in the United States and New Jersey. It is also the third leading cause of cancer death for men and women. UMCP diagnosed and/or treated 81 cases of colorectal cancer in 2010, making it the third most common cancer seen at UMCP – after prostate cancer for men and breast cancer for women. The incidence of colorectal cancer has declined steadily over the last decade, primarily due to better screening and early removal of pre-malignant polyps (Figure 2).

Risk Factors
The risk factor most strongly associated with developing colorectal cancer is age – the vast majority of colorectal cancers are diagnosed in those over the age of 50. Modifiable risk factors include obesity,
physical inactivity, alcohol consumption, cigarette smoking, and a diet high in fat and red meat and low in fiber. Non-modifiable risk factors are a personal or family history of colorectal cancer, or an inherited genetic risk such as familial adenomatous polyposis (FAP) or hereditary nonpolyposis colon cancer (HNPCC or Lynch Syndrome).\textsuperscript{i, ii}

**Staging**
Stage at diagnosis refers to how advanced a cancer is when it is first discovered. There are three components to colorectal cancer staging: extent of the primary tumor (T), regional lymph nodes (N) and distant metastases (M). All together, these elements combine to form the TNM Stage. Accurate stage at diagnosis is important because it enables patients and physicians to make informed treatment decisions.

All colorectal cancers begin inside the colon and progress outward through the layers of the bowel wall. Stage 0 colorectal cancer, also known as carcinoma in situ, is a tumor that is confined to the innermost layer (mucosa) of the colon wall. When a tumor advances beyond the mucosa to the underlying layers of the submucosa and muscularis propria, it becomes a Stage 1. Further extension to the subserosa or serosa, the outermost layer of the colon wall, is classified as Stage 2.

Sometimes as a tumor progresses, the lymph nodes involved in the drainage of lymphatic fluid from the colon and rectum – known as regional lymph nodes – become involved with tumor. When this occurs, the cancer is in Stage 3.

Involvement of non-regional (distant) lymph nodes, as well as other organs in the body, can also occur. These are called metastases and are classified as Stage 4. The liver and lungs are common metastatic sites involved in colorectal cancer, although other organs may also be affected.
In 2010 more than half of colorectal cancers at UMCP were diagnosed in stages 0, I or II. Overall, colorectal cancers at UMCP appear to be diagnosed earlier than the national average (Figure 5).

**Screening**

All colorectal cancers begin as a polyp. By removing polyps before they become cancerous, colorectal cancer can be prevented. Regular screening can detect polyps before they become cancerous. The American Cancer Society recommends that men and women age 50 and older should be screened regularly for colorectal cancer. See Figure 6 for the American Cancer Society’s screening guidelines for colorectal cancer. Individuals at increased risk for developing colorectal cancer, such as those with a personal or family history, inflammatory bowel disease, or certain genetic syndromes, may need to begin screening at an earlier age.

**Figure 5. Proportion of Colorectal Cancers by Stage at Diagnosis – UMCP vs. NCDB**

**Figure 6. American Cancer Society Screening Guidelines for the Early Detection of Colorectal Cancer in Average-risk Asymptomatic People**

<table>
<thead>
<tr>
<th>Who?</th>
<th>Tests that find polyps and cancer:</th>
<th>When?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men and women age 50+</td>
<td>Flexible sigmoidoscopy,* or Colonoscopy, or Double-contrast barium enema (DCBE),*</td>
<td>Every 5 years Every 10 years Every 5 years</td>
</tr>
<tr>
<td></td>
<td>CT colonography (virtual colonoscopy)*</td>
<td>Every 5 years</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tests that mainly find cancer:</th>
<th>When?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal occult blood test (FOBT),* or Fecal immunochemical test (FIT),*</td>
<td>Annually</td>
</tr>
<tr>
<td>Stool DNA test (sDNA)*</td>
<td>Interval uncertain</td>
</tr>
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</table>
Diagnosis and Treatment
Treatment for colorectal cancer may include surgery, chemotherapy and/or radiation therapy. Specific treatment plans are customized to the needs of each individual based on the stage of disease as well as biological and clinical prognostic features unique to each patient. Physicians at UMCP utilize evidence-based national treatment guidelines in helping to develop treatment options. UMCP provides high quality colorectal cancer care from screening and early detection through treatment and long-term survivorship care.

Endoscopy
The UMCP Endoscopy Suite is staffed by a caring team of board certified physicians and skilled nurses and equipped with the latest technology for finding and diagnosing colorectal cancer. UMCP offers a full range of services, including colonoscopy and flexible sigmoidoscopy, that can find and often remove polyps, thus preventing colon cancers from developing.

Endoscopic Ultrasound
Endoscopic ultrasound (EUS) is used by highly trained UMCP physicians to get a better look at the gastrointestinal tract and nearby organs, enabling them to better diagnose and treat certain GI and lung diseases, including cancer. It also enables physicians to perform fine-needle aspiration (biopsy) of lymph nodes and tumors and inject medicines in affected areas.

Surgery
Surgical resection of the primary tumor and regional lymph nodes is the standard therapy for colorectal cancer. Resection may be limited to local excision of the tumor itself for very early stage cancers, or partial or total removal of the colon (colectomy) for more advanced tumors. UMCP’s board-certified surgeons provide a spectrum of laparoscopic and open surgical procedures for the management of colorectal cancer.

Adequate lymph node sampling is essential for complete and accurate colorectal cancer staging. The National Comprehensive Cancer Network (NCCN) guidelines for clinical care and the National Quality Forum (NQF) recommend that a minimum of 12 lymph nodes be removed and examined in order to ensure accurate staging. Surgeons and pathologists at UMCP work together to ensure that an appropriate number of lymph nodes are removed and examined to achieve the best possible outcome for the patient.

Radiation
After surgery, some patients may require radiation therapy to remove any remaining cancer cells. Radiation treatment uses an invisible and painless high-energy beam to arrest growth of cancer cells. Radiation is administered through a powerful linear accelerator, capable of generating seven separate beams of high-energy X-rays or electrons and supported by a sophisticated treatment planning computer. A board certified physicist uses this computer to perform the thousands of complex calculations required to tailor each radiation treatment to individual patient needs.

Chemotherapy
Chemotherapy may be given either before (neoadjuvant) or after (adjuvant) surgery for colorectal cancer. The aim of chemotherapy is to kill cancer cells or to stop them from growing and multiplying.
Genetic Counseling
Some individuals may possess a genetic susceptibility to developing colorectal cancer. Through a collaboration with The Cancer Institute of New Jersey (CINJ), new genetic counseling and testing services are available through The CINJ LIFE Center at UMCP. Individuals seeking services on their own or through a physician referral will work closely with genetic counselors to document an in-depth family medical history and assess their risk of colorectal cancer, as well as breast, ovarian and uterine cancers. Counselors can arrange for a blood test to determine if an individual is genetically susceptible to those types of cancer. For those who undergo genetic counseling, the LIFE Centers at UMCP provides pre-test counseling, post-test counseling and physician follow-up.

Survival
Stage at diagnosis is an important factor in colorectal cancer survival. When colorectal cancers are diagnosed early, before the disease has spread to lymph nodes and adjacent organs, the five-year survival is 90%. Unfortunately, fewer than 40% of colorectal cancers are diagnosed in the earliest stages when survival is highest. Like many cancers, a later stage at diagnosis means a decreased survival. Survival rates for colorectal cancer patients treated at UMCP are in most cases higher than national survival rates.
Five-Year Colorectal Cancer Survival – UMCP vs. NCDB 1998-2002 Diagnoses

\[ \text{Years from Diagnosis} \]

\[ \text{% Survival} \]

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\(^2\) Colorectal Cancer Prevention PDQ. National Cancer Institute.