

Rex-UNC Cancer Care



Annual Report 2014

Rex-UNC Cancer Care

Rex Cancer Care Committee

A Comprehensive Community Cancer Program

American College of Surgeons Commission on Cancer

National Accreditation Program for Breast Centers



Rex-UNC Cancer Center 2014 Annual Report

Table of Contents	Page
➤ Mission & Core Values	2
➤ Introduction	3
➤ Accreditation & Requirements	4
➤ Annual Study 2014: Breast Cancer-Late Stage Disease	5
○ <i>Late Stage Population Analysis</i>	
○ <i>TMN Staging</i>	
➤ NCCDB Breast Cancer Survival Comparatives	7
➤ Cancer Tumor Registry	7
➤ Rex Analytic & Non-Analytic Cases	9
○ <i>By Volume Analysis</i>	
○ <i>By Site Analysis</i>	
➤ Rex-UNC Cancer Research	12
➤ Comprehensive Breast Care Program	13
○ <i>Community Outreach & Prevention</i>	
○ <i>Imaging & Diagnostics</i>	
○ <i>Multidisciplinary Care Management</i>	
➤ Rex Physician Practices	15
○ <i>Rex Surgical and Surgical Specialties</i>	
○ <i>Rex Hematology & Radiation Oncology</i>	
○ <i>Multidisciplinary Care Management</i>	
➤ Patient Navigation	17
➤ Psychosocial & Nutritional Management	18
➤ Support Programs & Groups	19
➤ Wellness, Rehabilitation & Lymphedema Management	20
➤ Acknowledgements	21
○ <i>Contributors</i>	
○ <i>References & Resources</i>	

Rex-UNC Cancer Care Mission and Core Values

Mission

The mission of Rex-UNC Cancer Care is to provide our patients with exceptional cancer care and to ensure timely and convenient access to the most effective strategies to prevent, treat, and ultimately cure cancer in the future. Rex-UNC Cancer Care provides expert, compassionate care to patients with cancer through close collaboration among providers across all disciplines of oncology.

Core Values

Impact

We strive to provide timely access to care in a caring and compassionate setting close to patients' homes, and to relieve the burden of disease now and for the future through our research, clinical care, education, outreach and advocacy.

Excellence

We pursue excellence relentlessly and with integrity in all that we do, adhering always to the highest standards of conduct.

Compassion and Respect

We strive to exceed expectations for compassion and respect for those in our care and for one another.



Introduction

The Rex Cancer Care Committee is the designated multidisciplinary body for program leadership and administrative oversight, development, and review of oncology services and care at Rex-UNC Cancer Care. As an official Rex Hospital medical staff forum, the Cancer Care Committee communicates directly with Hospital Administration and UNC Health System executive and operational leadership. Its composition, as required by the Commission on Cancer, includes board-certified physicians from surgery, medical oncology, radiation oncology, diagnostic radiology, and pathology, along with the cancer liaison physician, clinical research manager, pain control/palliative care specialist, and representatives from Hospital administration, nursing, pharmacy, psycho-social services, cancer registry, and quality improvement.

Annually, as required by the Commission on Cancer, the Rex Cancer Care Committee identifies a designated topic of relevance and interest for comprehensive study and evaluation. These findings are published through the Rex Cancer Annual Report and made publicly available to the organization and the community.



Cancer Care Committee Membership 2014

➤ Jeff Crane, MD	Chairman
➤ David B. Eddleman, MD	ACoS Liaison (Prior) / Breast Care Committee Chair
➤ Yale Podnos, MD	ACoS Liaison (Current) / Surgical Oncology
➤ Jeremiah Boles, MD	Hematology Oncology
➤ Nathan Sheets, MD	Radiation Oncology
➤ Keith Volmer, MD	Pathology
➤ Kirk Peterson, MD	Radiology
➤ Tom Grates, MBA	Cancer Center Executive Director
➤ Vickie Byler, MSN	Cancer Center Director (Prior)
➤ Kathleen Foote, CTR	Cancer Registry Manager
➤ Cynthia Jones, BSHA, CPHQ	Quality Coordinator
➤ Nancy Burns, RN	Cancer Research
➤ Claudia Hepburn, RN	Oncology Nurse Manager
➤ Kimberly Fradel, MSW, LCSW	Social Work
➤ Toni Miller, NP	Palliative Care
➤ Catherine Fine, MS, CGC	Genetics
➤ Emmeline Madsen, MPH	Cancer Specialty Services Manager

Additional Supporting Membership 2014

Alden Parsons, MD ~ Thoracic Surgery	Matthew Strouch, MD ~ Surgery	Meena Mohan, MD ~ Hospitalist
Robert Wehbie, MD ~ Medical Oncology	Donna Sterne, RPh ~ Pharmacy	Jeff Gross, RPh ~ Pharmacy
Jennifer Headen, MHA ~ RHOA Adm	Fred Fangman, RT ~ RadOnc Adm	Nancy Reifsteck, OTR ~ Rehab
Patty Marshall, RD, CSO, LDN	Suazne Smith, RD, CSO, LDN ~ Nutrition	Deb Andersson, RN ~ Inpatient

Rex-UNC Cancer Care Accreditations

The American College of Surgeons Commission on Cancer and the National Accreditation Program for Breast Centers



Rex-UNC Cancer Care is voluntarily accredited by the American College of Surgeons Commission (ACoS) per the Commission on Cancer (CoC) Standards as a Comprehensive Community Cancer Program (CCCP). The program assesses more than 500 newly diagnosed cancer cases each year, provides a full range of diagnostic and comprehensive treatment services as noted below, either on-site or by referral, as well as participates in cancer-related clinical research and cancer-related clinical trials, per CoC Standards.

Rex-UNC Cancer Care in addition, is also voluntarily accredited by the National Accreditation Program for Breast Centers (NAPBC). The NAPBC holds organizations to the highest standards of care for patients with diseases of the breast.



Rex-UNC Cancer Care is accredited by the Joint Commission

Rex-UNC Cancer Care meets and /or exceeds the Commission on Cancer's 12 Eligibility Requirements

Eligibility Requirements	Specifications
Cancer Committee Responsibilities	Annual monitoring, assessing, and identifying changes that are needed in each of the eligibility requirements.
Facility Accreditation	The facility is accredited by a recognized federal, state, or local authority
Cancer Committee Authority	Bylaws or policy and procedure define the cancer committee's authority and responsibility for the program.
Cancer Conference Policy	Program policy addresses the frequency, format, multidisciplinary attendance, attendance rate, prospective case presentations and total case presentations, discussion of stage and treatment planning, clinical trial options, and methods to address opportunities
Oncology Nurse Leadership	A nurse provides leadership within the program.
Cancer Registry Policy & Procedure	Policy and procedure addresses the use of Commission on Cancer data & all other cancer registry activities.
Diagnostic Imaging	Services are provided *
Radiation Oncology Services	Radiation treatment service locations are currently accredited by a recognized authority or, if not accredited, follow standard quality assurance practices *
Systemic Services	Policies or procedures are in place to guide the safe administration of systemic therapy *
Clinical Trial Information	A policy or procedure is used to inform patients about clinical trials
Psychosocial Services	A policy or procedure is in place to ensure patient access to psychosocial services *
Rehabilitation Services	Rehabilitative services are provided *
Nutrition Services	Nutrition services are provided *

Source: CoC, 2014 * Services are available either on-site, at locations that are facility owned, or by referral.

Annual Study 2014: Breast Cancer - Late Stage Disease

Introduction

Based on data from the National Cancer Institute, one out of every eight women born today will be diagnosed with breast cancer during her lifetime. The strongest risk factor is age, with a woman's risk of developing breast cancer increasing as she gets older. The peak incidence of breast cancer is between the ages of 50 and 70.

Other factors can also increase a woman's risk of developing breast cancer, including:

- ⌘ Inherited changes in certain genes
- ⌘ Having dense breasts
- ⌘ Starting to menstruate before age 12
- ⌘ First full-term pregnancy after age 30
- ⌘ Alcohol use
- ⌘ Personal or family history of breast cancer
- ⌘ Obesity after menopause
- ⌘ Starting menopause after age 55
- ⌘ No history of pregnancy

The key to improving breast cancer survival is through early detection. Many women's health professional organizations recommend women perform breast self exams monthly starting at the age of 20, have a clinical breast exam every 3 years from age 20-39 and annually thereafter, and begin annual screening mammograms at the age of 40. Most breast cancer is diagnosed on routine screening mammogram, and is in early stages when discovered. Despite improved mammogram technology and availability of mammograms, some women in our community still present with late stage breast cancer, which is the subject of our current study.

Early Stage vs. Late Stage

Breast cancer staging is based on the TNM staging system. T represents the size of the tumor, N represents the number of lymph nodes involved, and M represents metastatic spread to other parts of the body. Early stage breast cancer is considered to be stage I and II, with late stage breast cancer defined as stage III and IV. Data from the American Cancer Society shows that the five year survival rate for stage I is 100%, stage II is 93%, stage III is 72%, and stage IV is 22%. Therefore, our goal is to diagnose patients in the earliest stages to allow a better chance of survival.

New TNM Staging Combinations

Occult Carcinoma	Tx	N0	M0
Stage 0	Tis	N0	M0
Stage IA	T1 a,b	N0	M0
Stage IB	T2a	N0	M0
Stage IIA	T1 a,b	N1	M0
	T2a	N1	M0
	T2b	N0	M0
Stage IIB	T2b	N1	M0
	T3	N0	M0
Stage IIIA	T1,T2	N2	M0
	T3	N1,N2	M0
	T4	N0,N1	M0
Stage IIIB	T4	N2	M0
	Any T	N3	M0
Stage IV	Any T	Any N	M1 a,b

Breast cancer staging helps plan for treatment and is the most important factor for prognosis.

In general, the earlier the stage, the better the prognosis will be.

Pathologic staging is based on a pathologist's study of the lymph nodes and tumor tissue removed during surgery or biopsy.

Clinical staging includes results from a health care provider's physical exam and tests like mammography. These may add to the pathologist's findings, when needed.

Breast Cancer TMN: Tumor - Lymph Node - Metastases Staging

Primary Tumor (T)

TX	Primary tumor cannot be assessed
T0	No evidence of primary tumor
Tis	Carcinoma in situ (DCIS, LCIS, Paget's w/o tumor mass)
T1	Tumor ≤ 2 cm
T2	Tumor > 2 cm but ≤ 5 cm
T3	Tumor > 5 cm
T4	Tumor of any size growing into chest wall or skin

Lymph Node Status (N)

NX	Nearby lymph nodes cannot be assessed
N0	Cancer has not spread to nearby lymph nodes
N1	Cancer spread to 1-3 ALN, and/or tiny amts IMLN on SLN bx
N2	Cancer has spread to 4-9 ALN under the arm or enlarged the IMLN

One of the following: Cancer has spread or involves:

- * 10 or more ALN
- * Spread to lymph nodes under/above the clavicle
- * ALN and enlarged the IMLN
- * 4 or more ALN, and tiny amounts in the IMLN on SLN bx

Metastases (M)

MX	Presence of distant metastases cannot be assessed
M0	No distant spread
M1	Spread to distant organs is present

ALN (Axillary Lymph Node) IMLN (Internal Mammary Lymph Node) SLN (Sentinel Lymph Node)

Demographics

Despite widely publicized screening practices, some women still present with late stage breast cancer. The goal of our study was to identify elements of late stage disease presentation in order to better understand our population, to determine reasons for delay in breast cancer diagnosis, and to begin developing strategies to promote earlier stage diagnosis in the at-risk population.

Analysis of the Rex tumor registry for calendar year 2013 identified 669 total breast cancer cases. The vast majority, 591 (88.3%) patients had early stage disease and 78 patients (11.7%) had late stage disease. Of the early stage patients, 486 (82.2%) were white, 90 (15.2%) were black, and 15 (2.5%) other. Of the late stage patients 57 (73.1%) were white, 16 (20.5%) were black, and 5 (6.4%) other.

The most common age range for late stage presentation was between 40 and 54 years old, whereas the most common age range for early stage presentation was between 55 and 69 years old. Nearly all patients, 669 (97%) patients were insured. Only 15 of the early stage patients (2.5%) were uninsured and three of the late stage patients (4%) had no insurance.



Location

Review of patients' city and county of residence failed to identify differences in early and late stage breast cancer patients. Over 82% of the patients reside in Wake County, followed by 10% in Johnston County, 5% in Franklin, and 3% in Harnett. A closer look at the majority residing in Wake County, 53% reside within Raleigh, followed by 22% reside in western Wake, 10% in southern Wake, and approximately 7% in both northern and eastern Wake County.



Endocrine and Hormone Receptor Status

There was no discernible difference in endocrine receptor status (estrogen or progesterone receptor) between early stage and late stage diagnosis groups.

Additional Review

Record reviews were initiated for the 78 late stage breast cancer patients in search of some discerning elements or attributes for the late stage of presentation. Of interest, over 60% (48) of these women identified the presence of palpable masses or notable breast changes prior to diagnosis. A concerning 32% (25) of these women delayed seeking medical evaluation for these changes for months or even years. Reasons for the delay were stated as not seeing the mass as an urgent need, being too busy, or having other pressing needs or denial and fear.

Conclusion

After assessing all of our data, no single factor separates the populations presenting with early versus late stage breast cancer. Specifically, there do not seem to be any significant racial, age, insurance, or geographic disparities between the early stage group and the late stage group.

One interesting finding is that over 60% of the women diagnosed with late stage breast cancer had physical findings that the patient had noticed herself, yet approximately one third of these women delayed seeking medical attention for reasons other than a lack of insurance or access to care.

In addition to continuing to promote screening programs as previously described, we must continue to support our community and educate patients on the signs and symptoms of breast cancer. Although most commonly in early disease there are no symptoms, women should be encouraged to seek urgent medical attention if changes in her breasts are noticed. Specifically, these changes include lumps, nipple discharge, nipple changes, or other breast skin changes.

Patients should also be aware of the risk factors for breast cancer, including family history, personal history, abnormal breast biopsy, hormone replacement therapy, early onset of menses, no history of pregnancy, first childbirth after the age of 30, and menopause after the age of 55.



Promotion of healthy lifestyles may also decrease the risk of breast cancer. This includes eliminating tobacco use, minimizing alcohol use, eating a healthy diet, exercising regularly, and maintaining ideal body weight.

National Cancer Data Base – Survival Comparatives 2003-2007

The NCDB Survival Reports are unadjusted five-year observed survival rates (not case-mix/risk adjusted). Rates are calculated by the actuarial method, compounding survival in one-month intervals from the date of diagnosis. Survival rates are not displayed when fewer than 30 cases are available, due to statistical limitations. Reports provide programs with their observed overall and AJCC stage stratified survival rates (with 95% confidence intervals), supplemented with a comparison to the aggregate survival of all cases reported to the NCDB from CoC accredited programs.



Rex Breast Cancer Survival Rates 2003-2007 Total Cases: 2,080

REX	(n)	0 yr	1 yr	2 yr	3 yr	4 yr	5 yr
0	460	100	99.1	98.4	97.7	96.3	95.2
I	842	100	99	98.2	96.6	95.2	93.1
II	530	100	99.2	96.4	93.3	90.9	88.5
III	196	100	96.4	89.1	82.3	78.1	74.2
IV	52	100	71.2	51.2	38.8	29.1	20.4

NCDB Breast Cancer Survival Rates 2003-2007 Total Cases: 756,708

NCDB	(n)	0 yr	1 yr	2 yr	3 yr	4 yr	5 yr
0	146,142	100	99.4	98.6	97.6	96.5	95.2
I	291,824	100	99.1	97.6	95.8	93.8	91.7
II	210,773	100	98.1	95.1	91.7	88.3	85.2
III	80,096	100	94.7	86.5	78.9	72.6	67.3
IV	27,873	100	66.7	49.9	37.7	28.8	22.7

Rex-UNC Cancer Tumor Registry

The Cancer Registry at Rex Hospital was first established in 1988. The registry has added over 50,000 cases into the database since the reference date.

- In 2013, the registry added 2891 cases, with 2289 as analytic cases with initial diagnosis and/or first course of treatment at Rex Healthcare.
- The additional 602 cases are non-analytic cases representing patients with recurrent disease, initially diagnosed and/or treated elsewhere.

The primary function of the Cancer Registry is to collect and manage statistical data and clinical elements on Rex's cancer population. Information collected includes patient demographics, medical history, anatomical site and histology of the primary cancer, extent of disease and treatment.

Cancer Registry data provides Rex's physicians and administration with key information to help improve quality and treatment outcomes for patients and statistical reports to study survival and support research.

Patient follow-up is an important part of cancer care and maintaining the registry. Each patient in the registry is followed annually to update information on disease recurrence, subsequent treatment, length of survival and overall well-being. This information is utilized by the cancer program for studies and research by the American Cancer Society and North Carolina Central Cancer Registry. Follow up information is obtained through letters to physicians and patients.

- Currently Rex's excellent follow-up rate is 91% (90% or greater as required by the CoC).

The Rex Cancer Tumor Registry Team are Certified Tumor Registrars and Members of the Association of NC Cancer Registrars and the National Cancer Registrars Association



Study 2014 Total Cases: Analytic & Non-analytic 2013

Analytic cases (A) are defined as patients diagnosed and/or treated at the reporting facility. The CoC requires that analytic cases be abstracted by accredited programs.

Non-analytic cases (NA) are defined as patients diagnosed and/or treated elsewhere and seen at the reporting facility for diagnostic workup, in-transit care, disease recurrence or persistence.

➤ Although the CoC does not require abstraction of non-analytic cases, these are required by the NC Central Cancer Registry.

Rex –UNC Cancer Care- Cancer Groups by Volume CY 2013 (Total 2,806 Cases)

PRIMARY SITE	Totals		Sex				AJCC Stage						
	Total	%	A	NA	M	F	0	I	II	III	IV	Unk	N/A
BREAST	731	26.1%	669	62	8	723	127	295	178	61	24	46	0
DIGESTIVE	461	16.4%	353	108	251	210	10	71	87	97	127	62	7
RESPIRATORY	340	12.1%	250	90	172	168	3	82	28	63	137	27	0
MALE GENITAL	262	9.3%	189	73	262	0	0	62	133	37	18	12	0
URINARY	200	7.1%	175	25	143	57	59	54	20	15	29	23	0
BLOOD& BM	138	4.9%	97	41	82	56	0	3	0	2	0	0	133
FEMALE GENITAL	136	4.8%	94	42	0	136	6	54	10	24	28	13	1
ENDOCRINE	121	4.3%	107	14	32	89	0	65	7	19	7	13	10
SKIN	120	4.3%	103	17	75	45	35	48	8	4	7	17	1
LYMPHATIC	112	4.0%	91	21	70	42	0	18	23	22	38	9	2
ORAL	70	2.5%	41	29	57	13	0	5	8	8	28	16	5
BRAIN & CNS	59	2.1%	47	12	28	31	0	0	0	0	0	0	59
UNKNOWN PRI	24	0.9%	17	7	9	15	0	0	0	0	0	1	23
CONNECTIVE	17	0.6%	16	1	8	9	0	4	3	3	2	5	0
OTHER	10	0.4%	7	3	4	6	0	0	0	1	1	0	8
BONE	5	0.2%	4	1	2	3	0	2	1	0	1	1	0
ALL SITES	2806		2260	546	1203	1603	240	763	506	356	447	245	249

Rex-UNC Cancer Care – Cancer Group Details by Site CY 2013 (Total 2,806 Cases)

PRIMARY SITE	Totals		Sex				AJCC Stage						
	Total	%	A	NA	M	F	0	I	II	III	IV	Unk	N/A
ORAL	70	2.5%	41	29	57	13	0	5	8	8	28	16	5
LIP	0	0.0%	0	0	0	0	0	0	0	0	0	0	0
TONGUE	23	0.8%	11	12	19	4	0	1	1	4	11	6	0
OROPHARYNX	5	0.2%	2	3	4	1	0	0	1	0	2	2	0
HYPOPHARYNX	3	0.1%	2	1	3	0	0	0	2	0	0	1	0
OTHER	39	1.4%	26	13	31	8	0	4	4	4	15	7	5
DIGESTIVE	461	16.4%	353	108	251	210	10	71	87	97	127	62	7
ESOPHAGUS	32	1.1%	24	8	25	7	0	2	4	12	10	4	0
STOMACH	50	1.8%	39	11	38	12	1	6	8	8	15	10	2
COLON	132	4.7%	100	32	66	66	2	26	23	32	34	15	0
RECTUM	93	3.3%	77	16	53	40	3	17	19	25	13	16	0
ANUS/ANAL	21	0.7%	15	6	9	12	4	3	7	4	1	2	0
LIVER	23	0.8%	15	8	14	9	0	4	1	2	11	2	3
PANCREAS	74	2.6%	54	20	31	43	0	7	21	7	31	7	1
OTHER	36	1.3%	29	7	15	21	0	6	4	7	12	6	1
RESPIRATORY	340	12.1%	250	90	172	168	3	82	28	63	137	27	0
NASAL/SINUS	0	0.0%	0	0	0	0	0	0	0	0	0	0	0
LARYNX	20	0.7%	16	4	14	6	2	7	1	3	2	5	0
LUNG/BRONCH	318	11.3%	232	86	156	162	1	75	27	60	133	22	0
OTHER	2	0.1%	2	0	2	0	0	0	0	0	2	0	0
BLOOD& BM	138	4.9%	97	41	82	56	0	3	0	2	0	0	133
LEUKEMIA	53	1.9%	36	17	35	18	0	3	0	2	0	0	48
MULTIPLE MYL	27	1.0%	21	6	14	13	0	0	0	0	0	0	27
OTHER	58	2.1%	40	18	33	25	0	0	0	0	0	0	58
BONE	5	0.2%	4	1	2	3	0	2	1	0	1	1	0
CONNECTIVE	17	0.6%	16	1	8	9	0	4	3	3	2	5	0
SKIN	120	4.3%	103	17	75	45	35	48	8	4	7	17	1
MELANOMA	111	4.0%	97	14	72	39	35	44	6	4	7	14	1
OTHER	9	0.3%	6	3	3	6	0	4	2	0	0	3	0
BREAST	731	26.1%	669	62	8	723	127	295	178	61	24	46	0
FEMALE GENITAL	136	4.8%	94	42	0	136	6	54	10	24	28	13	1
CERVIX UTERI	16	0.6%	10	6	0	16	0	8	1	2	5	0	0
CORPUS UTERI	63	2.2%	47	16	0	63	0	36	2	13	6	5	1
OVARY	36	1.3%	23	13	0	36	0	5	4	7	14	6	0
VULVA	16	0.6%	11	5	0	16	6	5	1	2	0	2	0
OTHER	5	0.2%	3	2	0	5	0	0	2	0	3	0	0

Rex-UNC Cancer Care – Cancer Group Details by Site CY 2013 (Total 2,806 Cases)

PRIMARY SITE	Total	%	A	NA	M	F	O	I	II	III	IV	Unk	N/A
MALE GENITAL	262	9.3%	189	73	262	0	0	62	133	37	18	12	0
PROSTATE	244	8.7%	174	70	244	0	0	51	131	34	18	10	0
TESTIS	18	0.6%	15	3	18	0	0	11	2	3	0	2	0
OTHER	0	0.0%	0	0	0	0	0	0	0	0	0	0	0
URINARY	200	7.1%	175	25	143	57	59	54	20	15	29	23	0
BLADDER	98	3.5%	86	12	70	28	53	15	14	3	8	5	0
KIDNEY/RENAL	94	3.3%	82	12	65	29	4	38	5	10	21	16	0
OTHER	8	0.3%	7	1	8	0	2	1	1	2	0	2	0
BRAIN & CNS	59	2.1%	47	12	28	31	0	0	0	0	0	0	59
BRAIN (Benign)	3	0.1%	3	0	2	1	0	0	0	0	0	0	3
BRAIN (Malig)	27	1.0%	23	4	17	10	0	0	0	0	0	0	27
OTHER	29	1.0%	21	8	9	20	0	0	0	0	0	0	29
ENDOCRINE	121	4.3%	107	14	32	89	0	65	7	19	7	13	10
THYROID	111	4.0%	105	6	30	81	0	65	7	19	7	13	0
OTHER	10	0.4%	2	8	2	8	0	0	0	0	0	0	10
LYMPHATIC	112	4.0%	91	21	70	42	0	18	23	22	38	9	2
HODGKIN'S	18	0.6%	17	1	10	8	0	0	13	4	1	0	0
NON-HODGKIN'S	94	3.3%	74	20	60	34	0	18	10	18	37	9	2
UNKNOWN PRIMARY	24	0.9%	17	7	9	15	0	0	0	0	0	1	23
OTHER	10	0.4%	7	3	4	6	0	0	0	1	1	0	8
ALL SITES	2806		2260	546	1203	1603	240	763	506	356	447	245	249

Rex-UNC Cancer Research

An integral component of the Breast Cancer Multidisciplinary Conference at Rex Cancer Center is the discussion of best possible current treatment options for the patient. Treatment decisions are based on a review of the patient's clinical information, National Comprehensive Cancer Network (NCCN) guidelines, and evidence from relevant studies, any available Rex and UNC clinical trials, and consensus among case conference multidisciplinary and interdisciplinary participants.

Rex's research nurse team screens all patients discussed in conference for clinical trial eligibility. Research nurses actively participate in the discussion, clarifying eligibility issues related to diagnosis, stage, and important medical history, including prior cancers and prior treatment. If the patient is deemed eligible and the physician and patient would like to consider a clinical trial as an option for treatment, the research nurse will assist the physician in presenting details of the study therapy to the patient and family.

Rex is able to offer clinical trial opportunities to patients treated at Rex Cancer Center in Raleigh, as well as Rex Cancer Center of Wakefield. Rex has the following trials ongoing for breast cancer in 2014 (*Some are now closed to accrual, but participants are still being treated and followed*):

NSABP B-43	A Phase III Clinical Trial Comparing Trastuzumab Given Concurrently with Radiation Therapy and Radiation Therapy Alone for Women with HER2 + (Positive) Ductal Carcinoma In Situ Resected by Lumpectomy
NSABP B-47	Phase III Randomized Trial of Adjuvant Therapy Comparing Chemotherapy alone (6 cycles of Docetaxel plus Cyclophosphamide or 4 cycles of A/C followed by weekly Paclitaxel) to Chemotherapy plus Trastuzumab in Women w/ Node-Positive or High Risk Node-Negative HER2-Negative Low invasive breast cancer
NSABP B-49	A Phase III Clinical Trial Comparing the Combination of Docetaxel Plus Cyclophosphamide to Anthracycline-Based Chemotherapy Regimens for Women with Node-Positive or High-Risk Node-Negative, HER2-Negative Breast Cancer
SWOG 1007	Phase III, Randomized Clinical Trial of Standard Adjuvant Endocrine Therapy +/- Chemotherapy in Patients with 1-3 Positive Nodes, Hormone Receptor-Positive and HER-2 Negative Breast Cancer with Recurrence Score (RS) of 25 or Less
SWOG 1207	Phase III Randomized, Placebo-Controlled Clinical Trial Evaluating the Use of Adjuvant Endocrine Therapy +/- One Year of Everolimus in Patients with High Risk, Hormone Receptor-Positive and HER2-Negative Breast Cancer
Atempt	A Randomized Ph II Study of adjuvant Trastuzumab emtansine (T-DM1) vs Paclitaxel in combination with Trastuzumab for Stage I HER2-positive Breast Cancer (Atempt Trial)
MA.32	A Phase III Randomized Trial of Metformin vs. Placebo on Recurrence and Survival in Early Stage Breast Cancer (Blinded Study)
A211201	Change in Mammographic density on Metformin: A companion study MA.32
MA.32F	Behavioral Mechanisms of Fatigue in Patients Treated on NCIC CTG MA.32
EL112LAB	North American Breast Cancer Groups Biospecimen Bank for determinants of Late Relapse in Operable Breast Cancer

For 2015, Rex Oncology Research will partner with UNC on several breast cancer clinical trials, including a new study aimed at evaluating the effects of a home-based exercise program to address treatment induced fatigue. The study author, Dr. Hyman Muss of UNC, received a prestigious award from the Kay Yow Foundation this year to conduct this important research in women over age 65.

Clinical Trial Accruals:

- The CoC requires Comprehensive Community Cancer Programs (CCCP) to accrue patients to clinical trials. (Minimum Requirement for a CCCP is 4% / Commendation = 6%)
- Rex Cancer Clinical Research program accrued 27% of patients (analytic cases) in 2013 to a treatment, prevention, or epidemiological clinical trial.

The Rex Cancer Clinical Research Program continues to meet and exceed this requirement which demonstrates the program's continual commitment to best practice, quality and advanced care.

Rex Comprehensive Breast Care Program

From discovery to recovery, Rex Healthcare's Comprehensive Breast Care Program takes care of patients. The program offers a full range of treatment and support services with a team of physicians, expert staff and a support network dedicated to caring for each individual patient.

Certified by the American College of Surgeons as a Comprehensive Community Cancer Center and accredited by the National Accreditation Program for Breast Care Centers, Rex meets national standards for excellent breast care and has a long-standing tradition of treating patients with the latest technology and compassionate care.

The Rex Comprehensive Breast Care Program provides services along the entire oncology continuum from prevention and early detection to treatment and survivorship.



Prevention

Community Outreach

Rex Cancer outreach programs provide men and women with a variety of services to help keep them informed so they can take better care of themselves and their families. Rex Cancer Center provides resources at numerous health fairs throughout the year to provide information to the community and increase awareness of cancer prevention, detection and treatment. Interactive workshops and presentations are also provided to educate adults about the early detection of cancer. In 2014, over 10,000 individuals received information through the Rex Cancer outreach programs.

Brothers and Sisters of Rex is a program that combines awareness about breast, prostate and colorectal cancer. The lay health volunteer group of both men and women shares information in the community about prevention and early detection of these cancers. The specially trained volunteers make a commitment to provide local citizens with the most current health information and support resources at workshops, health fairs, businesses, churches, community service groups and other community events.

Save Our Sisters of Rex is a subset of Brothers and Sisters of trained volunteers from the community and Rex who have made a commitment to provide local citizens with the most current breast health information, resources and support. Many members of the Save Our Sisters team are breast cancer survivors. This group has been providing information on early detection of breast cancer to Wake and surrounding counties for over 15 years. The group's goal is to increase awareness of breast cancer and promote age-appropriate mammogram screenings throughout the community.

Save Our Sisters of Rex provides education and information at workshops, businesses, community service groups, health fairs, churches and neighborhood salons through the Pink Tote Campaign. The Annual Pink Tote campaign provides information to women about breast health and offers support in a comfortable setting.



During the month of October, Save Our Sisters' members visit hair and nail salons across the communities. After the clients are educated by one of the SOS members, they receive a pink tote containing pertinent information and incentive items.

Breast Imaging & Diagnostics

Rex offers a wide scope of breast imaging services for women, including digital mammography, tomosynthesis, ultrasound and Breast MRI. All Rex mammography equipment is certified by the Food and Drug Administration and accredited by the American College of Radiology. All breast imaging at Rex is reviewed and interpreted by board-certified radiologists. Rex Healthcare opened a new Breast Care Center in June 2013, with increased ease of access and privacy for patients.

Digital mammography services are available at five convenient locations: Rex Breast Care Center, near Rex Hospital and Rex Mammography Services of Cary, Holly Springs, Wakefield and Knightdale. All locations are departments of Rex Hospital.



Digital mammography uses essentially the same mammography system as conventional mammography, but the system is equipped with a digital receptor and a computer instead of a film cassette. With digital view mammography, images are acquired digitally and displayed immediately on the system monitor, providing a clearer and easier to read view for physicians. Rex also offers 3D breast tomosynthesis mammography at Rex Breast Care Center in Raleigh. This new type of mammography produces a 3D image of the breast, allowing radiologists to see more clearly through overlapping breast tissue. The result is a more detailed picture, making breast abnormalities easier to view even in dense tissue.

Breast MRI is used in women at high-risk for developing breast cancer that may need additional imaging evaluation. Breast MRI is also utilized in women diagnosed with breast cancer to provide additional imaging of the affected breast and opposite breast, which often aids in making treatment decisions.

Mobile Mammography

Rex has been a long-time community provider of Mobile Mammography Services to provide access to high-quality screenings. The mobile mammography program provides services to 17 counties, including rural areas with limited access to medical care. The mobile units are a particularly important resource for women in rural areas who may not have a mammography facility in their community. Rex Mobile Mammography delivers care regardless of an individual's ability to pay. Rex began operating the first Mobile Mammography Unit in 2001. By 2011, the demand for mobile unit services had grown so much that a second unit was added with the help of community supporters including Revlon and the Kay Yow Cancer Fund. By 2014, the original unit had logged over 100,000 miles in the 13 years since it first hit the road. It was replaced with the help of community supporters who were again vital in making the new unit a reality. In 2013 the Mobile Mammography Units provided 5,392 mammograms. Nearly half, 2,365, were provided free of charge to individuals in need through the Rex Mammography Certificate Program.



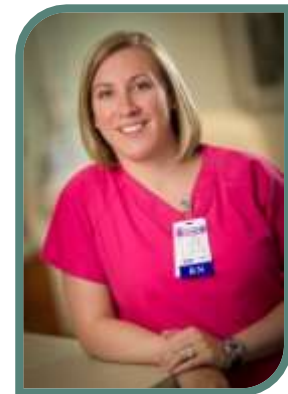
Mammography Assistance Program

The Rex Mammography Assistance Program provides screening mammograms, diagnostic mammograms, and breast ultrasounds at no charge to qualified uninsured women. The program is offered at two stationary sites and on the two Mobile Mammography Units. Women who receive a free screening mammogram through the program are also eligible to receive free diagnostic imaging. In addition, women may qualify for the program through a

physician's referral for a diagnostic mammogram without having an initial screening mammogram. Rex and Komen for the Cure have partnered together on the Mammography Assistance Program for eight years. The number of women served continues to grow. During the 2013-2014 grant period the program provided free screening mammograms to 2,804 women.

Diagnostic Procedures

The Rex Breast Care Center provides diagnostic biopsies via ultrasound or mammography guidance for individuals that need additional evaluation of any areas identified on imaging. Ultrasound guided and stereotactic, or mammography guided, biopsies are completed by board-certified radiologists with the assistance of specially trained mammography and ultrasound technologists. All patients are scheduled for in-person results of the biopsies 48-hours after the original procedure. A Patient Care Nurse Navigator assists with care coordination of patients with a positive diagnosis and is present when the results are received.



Rex Multidisciplinary Breast Cancer Management

Specialists at Rex treat breast cancer with a multidisciplinary approach through the Rex Multidisciplinary Breast Cancer Program. That means physicians from different specialties work together to coordinate care for each patient. Radiologists, surgeons, pathologists and oncologists meet to discuss the best treatment options for each patient's disease, lifestyle and goals.

Breast Multidisciplinary Case Conference

A weekly conference, established in July of 2013, brings together a team of disease experts that provide a blend of strong clinical and system knowledge to optimize patient care. Attending the conference are radiologists, pathologists, surgeons, medical oncologists, radiation oncologists, dieticians, social workers, research nurse, and nurse navigator(s). While most patient cases presented come through consult encounters, patients may also self-refer to the program after having heard of the service. The patient case is prepped by members of the Rex Cancer Specialty Center team to include Patient Care Nurse Navigators, Medical Office Assistants and Technology Assistants to ensure that all applicable information is gathered and accessible for the case discussion. Each patient case is presented, with time to ensure all related participants provide input to add to the multidisciplinary care plan.



Rex Physician Practices

Rex Surgical Services

Rex Healthcare is the leading surgery provider in Wake County, performing more than 35,000 surgeries a year. More than \$32 million has been invested in Rex's operating rooms to include state-of-the-art equipment and digital technology.

Rex offers some of the best surgical technology in Wake County and the southeastern United States.

Rex Hematology Oncology Associates

Rex physicians have been serving Raleigh and surrounding areas for more than 20 years. Rex Hematology Oncology Associates was created with patients in mind, offering comprehensive cancer and hematology care. The team, led by board-certified renowned physicians in the field of hematology and oncology, uses the latest technologies and treatments to provide a broad scope of services and the highest quality of care to patients.



The service includes an extensive team of highly skilled, credentialed and compassionate medical oncology care professionals including: Advanced practitioners, oncology certified nurses, oncology pharmacists, patient chemotherapy educators, and medical technologists.

Patients are served throughout the Triangle at five different locations: *Raleigh, Blue Ridge, Wakefield, Cary, and Garner.*

- | | | |
|---------------------------------|----------------------------|-----------------------------------|
| ☞ Jeremiah C. Boles, MD | ☞ Maha A. Elkordy, MD, MPH | ☞ Paramjeet Singh, MD |
| ☞ Jeffrey M. Crane, MD, FACP | ☞ Alan D. Kritz, MD | ☞ JoEllen C. Speca, MD |
| ☞ Roy Cromartie, MD | ☞ Brendan D. McNulty, MD | ☞ Robert S. Wehbie, MD, PhD, FACP |
| ☞ Nirav S. Dhruva, MD | ☞ Susan G. Moore, MD | ☞ Mark Yoffe, MD |
| ☞ Charles F. Eisenbeis, MD, PhD | ☞ Lola A. Olajide, MD | |

Rex/UNC Radiation Oncology

Also serving the Raleigh and surrounding areas for more than 20 years, Rex/UNC Radiation Oncology was created with the comprehensive cancer and radiation care needs of our patients in mind. Led by board-certified renowned physicians in the field of radiation oncology, the team uses the latest technologies and treatments to provide a broad scope of services and the highest quality of care to patients.



The service includes an extensive team of highly skilled, credentialed and compassionate radiation oncology care professionals including: Physicians, dosimetrists, radiation therapists, and oncology certified nurses.

Patients are served throughout the Triangle at four different locations: *Raleigh, Wakefield, Smithfield, and Clayton.*

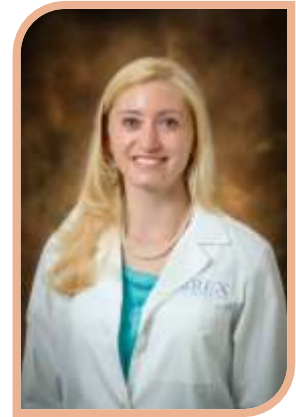
- | | |
|-----------------------------|---------------------------------------|
| ☞ Roger F. Anderson Jr., MD | ☞ Leroy George (Pete) Hoffman Jr., MD |
| ☞ Courtney M. Bui, MD | ☞ Charles W. Scarantino, MD, PhD |
| ☞ John Fakiris, MD | ☞ Nathan C. Sheets, MD |
| ☞ Douglas A. Fein, MD | ☞ Justin J. Wu, MD |

Rex Surgical Specialists

Rex Surgical Specialists has provided comprehensive breast care to the women of the Triangle for more than 60 years and continues to be one of the area's leading breast surgery providers. The focus is on complete care of the woman with breast concerns. The specialists offer education, discussion, counseling, and individualized treatment planning to women with benign, suspicious, and malignant breast diseases.



Providing compassionate expert care in a supportive environment, the physicians provide many services in the office setting, allowing for more prompt diagnosis. The program offers extensive experience and training in all of the advanced breast cancer treatment modalities.



Services include: Mammogram review, breast ultrasound, minimally invasive breast biopsy, partial breast radiation, breast conservation therapy, lumpectomy, mastectomy, sentinel node biopsy, coordination of multidisciplinary care, breast disease education and prevention.

Patients are served throughout the Triangle at multiple locations including: *Raleigh, Wakefield, Knightdale, and coming soon to Duraleigh Road, adjacent to the Rex Breast Center*

≈ David B. Eddleman, MD, FACS ≈ Rachel N. Goble, DO ≈ Thomas W. Maddox, MD, FACS

Patient Navigation

The Patient Care Navigation program was started at Rex in 2004 with a priority focus on Breast Cancer. Since then the program has grown to provide services to multiple cancer diagnoses. The program consists of seven nurse navigators (*four Breast, two Lung, and one GI*) who provide a variety of services to ensure that patients and their families receive high-quality, coordinated care as they move through the diagnostic and treatment phases of cancer care. The role of navigation involves providing education, support, resource coordination, and advocacy for the patient. By working in a collaborative manner with other health care professionals and departments, the navigator is able to ensure efficient and timely care is delivered to this patient population. Patients report an increase in satisfaction with their care and a decrease in anxiety with the provision of the liaison services of the navigator. Patients also experience less fragmentation in care as a result of the nurse navigator assisting in removing barriers, engaging other care team members, and translating the medical experience to patients and families.

The Breast Patient Navigator often first meets patients at initial diagnosis in the Rex Breast Care Center. The navigator is also present during initial surgeon or oncologist consultation, if with a Rex physician. During this diagnostic and decision-making time period, the navigator is able to facilitate care by working with other departments to ensure further testing and appointments are scheduled in a timely manner. Importantly, the navigator provides follow-up education and support, informed by the navigator attending these appointments and tests at Rex. The navigator is able to ensure patient needs are continually assessed and that the care plan is adjusted as needed and communicated to those involved.

The Rex Breast Navigation Team:

- *Joan Freeborn, RN, BSN*
- *Kristin Knott, RN, BSN*
- *Susan Mondo, RN, BSN, CNOR*
- *Leanne LeClair, RN, BSN, CPAN*



Psychosocial Assessment and Management

A breast cancer diagnosis immediately changes the lives of patients and caregivers. Social workers are available to help guide them through the range of emotions and practical concerns stirred by the diagnosis and to offer support and resources as appropriate. Issues ranging from family relationships, body image, employment complications, housing, transportation assistance and advance care planning are routinely part of a social work assessment. Social workers in the Breast MDC are trained to help identify additional stressors in patients' lives that may compromise their care. In addition to the impact of a cancer diagnosis, patients may have difficulty with transportation to treatment or be unable to afford needed medications. They may have family concerns that prevent their caring for themselves while caring for others. Addressing a patient's emotional health supports comprehensive patient care and relieves some of the pressure on the health care team, too, as questions are answered and resources are accessed to accommodate the patient's needs. The social work team is also available for conversations about advance directives, which may include a values discussion that helps family members address a range of concerns among themselves.

The Rex Social Work Team:

- *Kimberly Fradel, MSW, LCSW, OSW-C*
- *Karen Hansen, MSW*
- *Rose Auman, MSW, Support Services Coordinator*

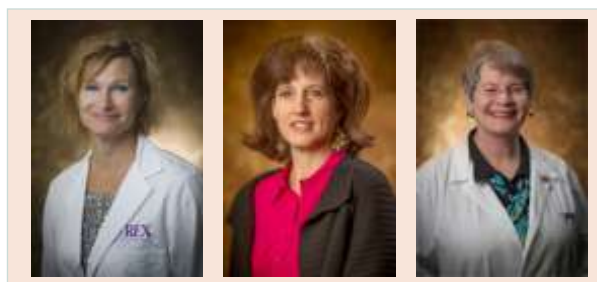


Nutritional Management

Fortunately, breast cancer patients are rarely as compromised with their nutritional status as those with some other cancers. When needed, however, the Rex Cancer Center has Registered Dietitians (RDs) on staff at multiple locations, providing expert dietetic advice through nutritional counseling to the higher risk cancer patients treated at Rex. These breast patients are seen on a referral basis and RD intervention can help improve nutrition levels by limiting nutritional imbalances that may occur, affecting quality of life.

The Rex Registered Dietician Team:

- *Patty Marshall, RD, CSO, LDN*
- *Gwyn Hardin, RD, LDN*
- *Suzanne Smith, RD, CSO, LDN (Inpatient Oncology)*



Support Programs

Rex Cancer Center offers three support groups for patients and family members and other support programs throughout the year.

Cancer Survivors Day

Rex celebrated the 25th annual Cancer Survivors Day in 2014 with over 700 individuals in attendance. This annual celebration has been hosted by Rex on the nationally designated holiday for patients and families to gather with each other and celebrate the resilience of survivors and their caretakers through the experience of cancer.

The family-friendly event often includes a band, dancing, carnival games and plenty of activities for children. Individuals come and connect with each other and the professionals at Rex Healthcare that have provided care to them and others.



Time of Remembrance

Rex Cancer Center annually honors family members who have cared for patients that have died over the past year. The service offers time for staff and families to remember patients and to acknowledge their gifts.

Living With & Beyond: Breast Cancer

An annual update in the management of breast cancer and survivorship issues is presented by Rex Cancer Center to individuals diagnosed with breast cancer. The event is attended by an average of more than two-hundred individuals to gain information and connect with others diagnosed. A physician panel is accompanied by other experts to deliver updated information along with question and answer sessions.

Support Groups

Sharing Survivorship

This group offers patients and caregivers an opportunity to connect in a supportive environment as they shift focus from treatment to recovery. Topics include coping with changes since diagnosis, mixed emotions at the end of treatment, relationship changes, reconnection with self, establishing new routine and normalcy, and living with fear of recurrence. Focus is given to personal healing and growth during this time.

Sharing Hope

This group supports patients who have metastatic disease or who have had a recurrence. Discussions include the challenges and emotions around serious illness, planning for the future, and the uncertainty of an advanced cancer diagnosis. Participants often share the hopes and important lessons learned from their experience.



kidscan!

kidscan! is a specially designed support group for children ages 6 to 18 who have a parent or adult caregiver diagnosed with cancer. The program offers a safe, nurturing place for children to learn about cancer and to develop self-care strategies through planned activities while their parents are in an adult group at the same time. Kids and teens connect with their peers who are going through similar experiences.

Wellness

Research shows that maintaining a healthy weight is important for helping prevent recurrence in hormone sensitive breast cancer because eliminating extra body fat helps reduce extra estrogen that feeds the cancer. Providers routinely recommend Rex Wellness Center and other programs to promote healthy lifestyles.

Rex Wellness Centers offer residents of Raleigh and the Triangle comprehensive medically and professionally supervised health services and fitness programs, complete with the resources and help individuals need to make positive life changes. Rex Wellness conducts a variety of tests and assessments to determine the best wellness plan per individual.

A complete health assessment includes: personal wellness, muscular strength and flexibility, blood pressure and heart rate, muscular endurance, cardio-respiratory fitness and functional movement. Rex Wellness Center staff includes registered dietitians, personal trainers, exercise physiologists, sports medicine professionals and many others dedicated to guiding members through the steps of a personalized fitness program.

Outpatient Cancer Rehabilitation and Lymphedema Therapy

People undergoing cancer treatment often need skilled rehabilitation to help offset some of the health issues they face as a result of treatment or the cancer itself. The cancer rehabilitation program, in collaboration with Rex Cancer Center, is designed to combat fatigue and other side effects brought on by chemotherapy, radiation, surgery and other cancer treatments.

Cancer rehabilitation includes a skilled evaluation by a licensed physical or occupational therapist. They assess range of motion, strength and endurance level, or other capabilities as needed. Therapists take a special interest in helping improve the quality of life for cancer patients.

They work one-on-one with the patient and provide extensive education and strategies to help with extreme fatigue, lymphedema, decreased strength and range of motion, inability to perform daily activities or “chemo brain.”

Lymphedema is chronic swelling due primarily to a failure or blockage of the lymphatic system. Treatment consists of a short- and long-term technique called Combined Decongestive Therapy (CDT), recognized as the most effective and least invasive approach to the treatment of lymphedema.

- Evaluation by a specially trained therapist
- Manual Lymphatic Treatment (MLT)
- Compression bandaging and compression garments
- Therapeutic exercise
- Skin and nail care

At Rex Outpatient Rehabilitation, a licensed therapist who has been extensively and specially trained in CDT performs lymphedema treatment.

Patients are served throughout the Triangle at multiple locations including: *Raleigh, Wakefield, Knightdale, Garner and Cary.*



Acknowledgements

Feature Contributors

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☞ Emmeline Madsen, MPH	<i>Rex Cancer Specialty Services Manager</i>
☞ Nancy Burns, RN, OCN	<i>Rex Clinical Research Manager</i>
☞ Cynthia Jones, BSHA, CPHQ	<i>Rex Cancer Quality Program Coordinator</i>
☞ Rose Auman, MSW	<i>Rex Cancer Center Support Programs Coordinator Annual Report Editor</i>

Resources & References

- ☞ Commission on Cancer, American College of Surgeons, Quality Tools for Cancer Programs
 - *NCDB Survival Reports*
 - *Cancer Program Practice Profile Reports (CP3R)*
 - *Rapid Quality Reporting System (RQRS)*
- ☞ American Joint Committee on Cancer (AJCC) Breast Cancer Staging
 - <https://cancerstaging.org/references-tools/quickreferences/Documents/BreastMedium.pdf>
- ☞ American Cancer Society: Breast Cancer
 - <http://www.cancer.org/cancer/breastcancer/>
- ☞ ACoS Commission on Cancer
 - <https://www.facs.org/quality-programs/cancer>
- ☞ National Accreditation Program for Breast Centers
 - <https://www.facs.org/quality-programs/napbc>

Rex-UNC Program and Service Information

☞ Rex Breast Care Centers	http://www.rexhealth.com/breast-care-center
☞ Rex Cancer Center Physicians	http://www.rexhealth.com/find-an-oncologist
☞ Rex Cancer Navigator Program	http://www.rexhealth.com/navigator-program
☞ Rex kidscan!	http://www.rexhealth.com/kidscan
☞ Rex Lymphedema Therapy	http://www.rexhealth.com/lymphedema-therapy
☞ Rex Surgical Specialists	http://www.rexsurgical.com/BreastSurgery
☞ Rex-UNC Cancer Care	http://www.rexhealth.com/cancer