

Table I. Patient Characteristics

1964 - 2006	
Total patients	44
Median Follow-up	4.7 years
Minimum Follow-up	2 years
Age (years)	
Median	16.3 years
Range	2.0 - 71.0
Sex	
Male	22 (50%)
Female	22 (50%)
Site	
Infratentorial	37 (84%)
Supratentorial	7 (16%)
Histology	
WHO Grade II	32 (73%)
WHO Grade III (anaplastic)	12 (27%)

Table II. Treatment Characteristics

Surgery	
GTR	16 (36%)
STR	28 (64%)
RT	
CSI	13 (30%)
Local RT Only	31 (70%)
Median Tumor Dose	55.0 Gy (35.0 - 69.6 Gy)
Median CSI Dose	35.0 Gy (26.0 - 40.0 Gy)
Median Fraction Size	----
Median RT Duration	44 days (13 - 58 days)
Chemotherapy	
Yes	3 (7%)
No	41 (93%)

2008 Annual Report for Shands at the University of Florida

with statistical data from 2007

Message from the Shands at the University of Florida Hospital Cancer Committee Chairman

Robert DeW Marsh, MD – Chair
Shands at UF Cancer Committee,
UF College of Medicine associate professor
in the Department of Hematology/Oncology

The University of Florida Shands Cancer Center (UFSCC) is an interdisciplinary initiative at the UF Health Science Center's Gainesville and Jacksonville campuses, Shands at UF in Gainesville, and Shands Jacksonville. University of Florida clinicians and scientists perform original scientific research and enhance clinical strategies for the diagnosis, treatment and prevention of cancer.

The Shands at UF Cancer Committee is a group of dedicated physicians, nurses and support personnel committed to both the care and treatment of patients. This committee provides the many diverse groups involved in patient-centered cancer care the opportunity to interact, coordinate efforts and establish and maintain the highest quality of service. Meeting quarterly, the committee's goals continue to be that of auditing patient care, assuring the breadth and depth of educational programs, tumor conferences and other clinical activities, ensuring patient access to consultative services in all disciplines and providing oversight and quality control of data from the Oncology Data Center.

The success of the UFSCC and Shands at UF Cancer Program this past year was strengthened by many achievements, which include the following:

2008 Achievements

- Began construction on the Shands Cancer Hospital
- Commenced Shands HealthCare and H. Lee Moffitt partnership to improve cancer care
- Appointed Dr. Joseph Simone as UFSCC director and physician-in-chief of Shands at UF cancer services
- Opened Cancer Patient Rehabilitation Program utilizing space in Radiation Oncology - for improved access and availability of rehab therapists and services to cancer patients
- Opened 30-bed Shands at UF neuro-intensive care unit
- Established MammoSite breast program
- Installed Florida's first Aquilion ONE 320-detector row CT scanner
- Began offering VATS (video-assisted thoracic surgery) as an option for some lung cancer patients
- Moved Magnolia Parke rehab facility, doubling space and expanding services
- Developed the UF Cancer Survivor Program
- Ranked in more specialties than any other hospital in Florida, and 46 for cancer, in the 2008 edition of America's Best Hospitals, published by U.S. News & World Report
- Received 2008 Governor's Sterling Award, the state's top honor for performance excellence. Shands is the largest organization to receive this prestigious award since its introduction in 1993.
- Named in the top 100 hospitals for performance improvement by Thompson Reuters
- Received Magnet status redesignation by the American Nurses Credentialing Center
- Received five-year, \$5.3 million NIH grant for reducing disparities in head and neck cancer survival through prevention and early detection in low-income, minority men - the first NIH-funded center focusing on head and neck cancer in the Southeast
- Received \$4 million cancer research funding for UF-Moffitt Cancer Center collaborations
- Received \$150,000 for pediatric cancer studies from STOP! Children's Cancer, Inc.
- Received American Cancer Society grant for studying the adaptation of rabbit pathogen, myxoma virus, as a highly innovative treatment for pancreatic cancer
- Received pediatric oncology fellowships and grants from St. Baldrick's Foundation
- Found cancer-inhibiting compound under the sea by UF College of Pharmacy researchers
- Teamed with German biopharmaceutical company CureVac testing experimental therapy for advanced prostate cancer
- Published and/or reported findings of numerous research studies, including:
 - American Association for Cancer Research's Annual Meeting: UF and UNC findings identifying key target for cancer therapies
 - American Journal of Clinical Oncology: Definitive radiotherapy for prostate cancer
 - American Journal of Otolaryngology: Clear cell odontogenic carcinoma of the maxilla: a case report and literature review
 - Cancer: Adjuvant radiotherapy for cutaneous melanoma
 - Head Neck: Definitive radiation therapy for squamous cell carcinoma of the soft palate
 - Hepatology and the Journal of American College of Surgeons: 10-year retrospective study findings for improving liver surgery
 - International Journal of Radiation Oncology Biology Physics: Definitive radiotherapy for T1-T2 squamous cell carcinoma of pyriform sinus
 - International Journal of Radiation Oncology Biology Physics: Radiation treatment for Ewing family of tumors in adults: the University of Florida experience

- Nature: How researchers were able to short-circuit genetic processes that apparently contribute to neuroblastomas
- Neoplasia: Bromodeoxyuridine inhibits cancer cell proliferation in vitro and in vivo
- Neurosurgery: Can standard magnetic resonance imaging reliability distinguish recurrent tumor from radiation necrosis after radiosurgery for brain metastases?
- Neurosurgery: Linear accelerator stereotactic radiosurgery for metastatic brain tumors: 17 years of experience at the University of Florida
- Molecular Cell: The protein Bc12 protects lung cancer cells from efforts to fix or kill them. Funded with \$1.2 million in grants from the NIH and the Flight Attendant Medical Research Institute
- Science Signaling: Focal Adhesion Kinase Versus p53: Apoptosis or Survival
- Urological Nursing: The physical and psychological effects of prostate cancer surgery
- Participated in the American Cancer Society's Relay for Life
- Participated in the American Cancer Society's Making Strides Against Breast Cancer Walk
- Participated in the Leukemia and Lymphoma Society's Light the Night Walk
- Participated in National Cancer Survivor's Day
- Participated in Neuro-Oncology Walk
- Participated in Climb for Cancer Foundation - Costume Peek-A-Boo Bowling Tournament
- Participated in STOP! Children's Cancer Holiday Traditions
- Hosted Freedom from Smoking, a smoking-cessation program for Shands HealthCare employees
- Hosted GI cancer seminar
- Hosted GU oncology symposium
- Hosted fourth annual breast cancer symposium
- Hosted the Radiation Oncology Annual Clinical Research Seminar and Radiation Therapist Education Seminar
- Hosted on-going public education forums and initiatives:
 - Women's Advantage - monthly seminars on women's health and lifestyle issues
 - News&Notes newsletter - distributed to all Shands HealthCare employees
 - Shands News - distributed to all Shands HealthCare and UF Health Science Center employees
 - Health In A Heartbeat - two-minute health information segments on 72 national public radio stations in 21 states
 - SUNNA Program targeting low income women
 - Hospice Bereavement Support Group
 - Heads-Up Brain Tumor Support Group
 - American Cancer Society's Look Good - Feel Better monthly event
 - Pet Therapy Program
 - Arts In Medicine Program
- Reviewed UF pelvic osteosarcoma outcomes
- Reviewed long-term results of reoperative surgery in sporadic Zollinger Ellison Syndrome
- Improved patient satisfaction scores with services provided for:
 - GYN Oncology clinic from 82% to 90% excellent rating
 - Surgical Oncology clinic from 78% to 83% excellent rating
 - Pediatric Infusion Center from 93% to 100% excellent rating
 - Orthopedic Oncology clinic from 84% to 92% excellent rating
 - Infusion Center received 5-Star PRC patient satisfaction award for achieving greater than 90% excellent ratings for the year
 - Unit 11 Med/Surg received Top Performer PRC award for the highest rated unit in the nation for the fourth year in a row
- Completed and distributed the Cancer Program annual report

2009 Goals

Many cancer program goals continue from year to year. The following lists some of the new, as well as ongoing, goals for the coming year:

- Promote cancer staging in clinical treatment planning
- Improve CAPS protocol monitoring and compliance
- Develop quality and customer satisfaction measures for the GI Cancer Initiative, Urologic Cancer Initiative, and Breast Cancer Initiative
- Participate in the development of cancer programs, protocols, and services for the new cancer hospital set to open November 2009
- Improve parking services for cancer patients, including the potential for valet parking
- Improve patient access and entry into UF & Shands cancer services

The committee welcomes suggestions for improving the care given to patients with cancer.

Robert DeW Marsh, MD

Patient Care Evaluation Study

Long Term Outcomes Following Radiotherapy for Ependymoma

Erika Swanson, MD; Amy Smith, MD; Chris Morris, MS; Thomas Galloway, MD; Jessica Kirwan, MA; Robert B Marcus, Jr., MD; Robert Amdur, MD

Abstract Purpose:

To report long-term outcomes following radiotherapy for cranial and spinal ependymomas.

Methods:

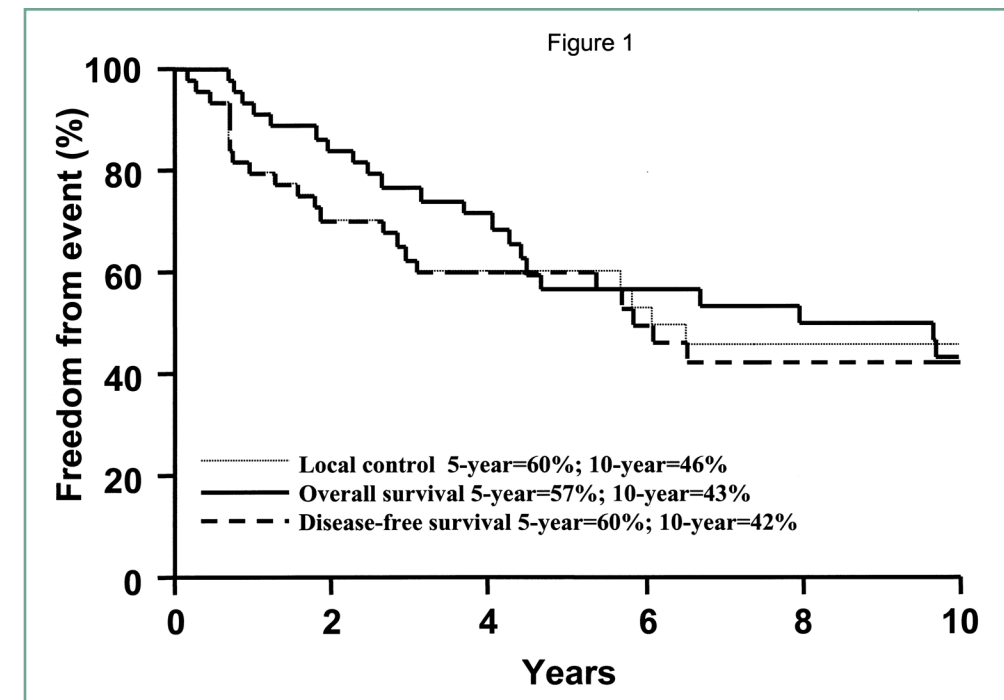
This is a retrospective review of all patients treated with radiotherapy for intracranial and spinal ependymomas at the University of Florida between 1964 and 2006. Patients with grade I spinal tumors with gross total resection, subependymomas, ependymoblastomas, and patients undergoing re-irradiation were excluded from this analysis. Fifty-seven patients met inclusion criteria for outcome analysis. Most patients received local radiotherapy alone to a median tumor dose of 54 Gy. One-quarter of the patients received craniospinal irradiation to a median dose of 35 Gy.

Results:

The 5- and 10-year local control rates for the entire population were 67% and 57%, respectively, with 23% of local recurrences occurring after 5 years. The great majority (92%) of patients recurred at the primary site while only 8% had spinal seeding with no evidence of disease at the primary site. No patient who received craniospinal irradiation recurred in the spine. The 5- and 10-year disease-free survival and overall survival rates for the entire cohort were 65% and 53% and 62% and 51%, respectively. On multivariate analysis, age ≥ 18 years, gross total resection, and spinal cord site were associated with improved local control. Tumor grade and treatment year or treatment era (early, 1964-1985, versus more recent, 1986-2006) did not influence outcome. There were no grade 4 or 5 toxicities in patients with continuous local control. Twenty-four percent of patients had Grade 2 or 3 toxicities. Two patients developed radiation-induced tumors (meningioma and glioblastoma multiforme) greater than 20 years after radiotherapy.

Conclusions:

The rate of cure of a cranial or spinal ependymoma is almost 50% and this has not improved over the past 40 years. Maximum safe resection followed by radiotherapy to a dose of 54 to 59 Gy, usually limited to the primary site, remains the treatment of choice. Changes in surgery or radiotherapy are unlikely to improve the outcome of these patients as we are pushing the limit of normal-tissue tolerance at the primary site with current approaches. These findings have implications for future studies on ependymoma.



2007 Primary Site Table

Primary Site	Total	Percent (%)	Class		Sex	F
			A	N/A		
All sites	2,612	100	2,074	538	1,443	1,169
Oral Cavity	194	7.5	150	44	132	62
Lip	5	0.2	3	2	3	2
Tongue	55	2.1	43	12	40	15
Oropharynx	4	0.2	2	2	3	1
Hypopharynx	2	0.1	2	0	1	1
Other	128	4.9	100	28	85	43
Digestive system	505	19.3	419	86	320	185
Esophagus	36	1.4	33	3	28	8
Stomach	32	1.2	27	5	20	12
Colon	97	3.7	55	42	50	47
Rectum	47	1.8	37	10	29	18
Anus/anal canal	4	0.2	2	2	1	3
Liver	128	4.9	114	14	92	36
Pancreas	95	3.6	93	2	53	42
Other	66	2.5	58	8	47	19
Respiratory system	257	9.9	213	44	158	99
Nasal/sinus	15	0.6	10	5	9	6
Larynx	40	1.5	33	7	30	10
Lung/bronchus	192	7.4	162	30	109	83
Other	10	0.4	8	2	10	0
Blood and bone marrow	126	4.8	85	41	71	55
Leukemia	71	2.7	55	16	39	32
Multiple myeloma	40	1.5	21	19	21	19
Other	15	0.6	9	6	11	4
Bone	38	1.5	37	1	15	23
Connect/soft tissue	63	2.4	57	6	36	27
Skin	153	5.8	127	26	93	60
Melanoma	126	4.8	108	18	78	48
Other	27	1.0	19	8	15	12
Breast	209	8.0	165	44	3	206
Female genital	134	5.1	122	12	0	134
Cervix uteri	33	1.3	29	4	0	33
Corpus uteri	56	2.1	53	3	0	56
Ovary	29	1.1	25	4	0	29
Vulva	14	0.5	14	0	0	14
Other	2	0.1	1	1	0	2
Male genital	215	8.3	161	54	215	0
Prostate	200	7.7	150	50	200	0
Testis	11	0.4	9	2	11	0
Other	4	0.2	2	2	4	0
Urinary system	168	6.4	130	38	124	44
Bladder	69	2.6	52	17	56	13
Kidney/renal	96	3.7	76	20	65	31
Other	3	0.1	2	1	3	0
Brain/CNS	233	8.9	185	48	109	124
Brain (Benign)	12	0.5	12	0	4	8
Brain (Malignant)	84	3.2	73	11	43	41
Other	137	5.2	100	37	62	75
Endocrine	149	5.7	113	36	70	79
Thyroid	77	2.9	49	28	29	48
Other	72	2.8	64	8	41	31
Lymphatic system	114	4.4	73	41	71	43
Hodgkin's disease	25	1.0	15	10	12	13
Non-Hodgkin's	89	3.4	58	31	59	30
Unknown primary	26	1.0	22	4	15	11
Other/ill-defined	28	1.1	15	13	11	17

Number of cases excluded: 0 This report includes carcinoma in-situ cervix cases, squamous and basal cell skin cases, and intraepithelial neoplasia cases.

KEY:

Analytic = Cases diagnosed and/or receiving all or part of the initial course of therapy at the UF Shands Cancer Center

Non-Analytic = Cases diagnosed and/or receiving all of the first course of therapy elsewhere; cases initially diagnosed at autopsy

Shands at the University of Florida Oncology Data Center

The Oncology Data Center is an essential part of the hospital cancer program, functioning within the guidelines of the American College of Surgeons-Commission on Cancer (ACOS-COC) approvals program. The Oncology Data Center collects data on all cancer cases diagnosed and/or treated at Shands at the University of Florida in Gainesville.

Since Shands at UF opened in 1958, the Oncology Data Center has accrued more than 79,000 new cancer cases, making it one of the largest registries in the state of Florida. More than 2,600 cases are added each year. The revised 1998 reference date reflects a caseload of greater than 23,000, with more than 9,000 being followed annually.

The Oncology Data Center is fully computerized and provides data pertinent to the diagnosis, treatment and survival of patients with malignant and selected pre-malignant tumors. This information is available to medical staff, residents and medical students for research analysis, and to administration for statistical data reflecting the cancer experience at Shands at UF. The data may be used to:

- Identify cases meeting certain criteria for physicians and other investigators
- Provide follow-up information on cancer patients for evaluation of patient care, treatment, survival and early detection of recurrent disease
- Calculate survival rates by site, stage of disease, sex and other variables
- Analyze referral patterns of cancer patients to identify needs for future healthcare facilities

Requests for data are welcomed and should be directed to:

Shands at UF Oncology Data Center
PO Box 100342 • Gainesville Florida 32610-0342
(352) 265-0740 – phone • (352) 265-0748 – fax
or, delivered to the Oncology Data Center in the Shands Medical Plaza, first floor, room 1528

Shands at the University of Florida 2008 Hospital Cancer Committee

Tina Banner, RN, MN.....Quality Management
Suzanne Bird, RD, LD/N Food and Nutrition Services
Shirley Bloodworth, RN, BSN, MN..... Patient Advocate, Hospice
Byron P. Croker, MD, PhDUF College of Medicine professor in the Department of Pathology
Nancy Dickson, RN, OCN, CPON..... Nursing
Julie Ecker Hematology/Oncology
Kelly D. Foote, MDUF College of Medicine assistant professor in the Department of Neurosurgery
C. Parker Gibbs, MDUF College of Medicine associate professor in the Department of Orthopaedics
Steven Hochwald, MD...UF College of Medicine associate professor in the Department of Surgery, Cancer Liaison Physician
Laurie Johnson Information Services
Judith Lightsey, MD.....UF College of Medicine professor in the Department of Radiation Oncology
Stephen Lucas, MDUF College of Medicine assistant professor in the Department of Anesthesiology
Robert DeW Marsh, MD.....UF College of Medicine associate professor in the Department of Hematology/Oncology, Cancer Committee Chair
Nicole A. Massoll, MD....UF College of Medicine associate professor in the Department of Pathology
Kevin McDonald, PT Rehabilitative Services

Data requests which include the need for patient identifying data (PID) require appropriate IRB approval documentation.

In addition to maintaining the hospital's oncology database, the Oncology Data Center participates in several external oncology-related activities including:

- The National Cancer Database (NCDB) – A joint venture of the ACOS-COC and the American Cancer Society (ACS), this database collects and analyzes longitudinal data regarding cancer patient care at the hospital, regional, state and national levels. Each year the Oncology Data Center submits data electronically in a format compatible with the national database.
- The American Cancer Society Facility Information Profile System (FIPS) – The ACS has established a national call center Web site to provide cancer patients, their families and the public with information about cancer. Included is hospital-specific information about the availability and quality of cancer care in local communities. A link is provided to each hospital's Web site. Updates to hospitals' services, statistical data and contact information are made as needed.
- The Florida Cancer Data System (FCDS) – Under Florida law, all healthcare facilities are required to submit incidence data on all cases of cancer treated at their sites. For patients seen at Shands at UF, the Oncology Data Center electronically reports all accessioned cases of cancer to the state on a monthly basis.
- The Florida Association of Pediatric Tumor Programs, Inc. (FAPTP) – The major hematology/oncology centers in Florida participate in the Statewide Patient Information Reporting System (SPIRS) registry of FAPTP. SPIRS provides the only statewide cancer registry focused on pediatrics.

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Gigi Moore-Higgs, ARNP, PhD(c), AOCNUFSCC Clinical Trials Office
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Steve Ritz.....Administration/Radiation Oncology
Pamela Rollins, RHIA..... Health Information and Record Management
Margaret Shaw..... American Cancer Society
Donald Shook Administration/Operations
Gale Smith, LCSW... Patient and Family Resources/Patient Services
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Glenn E. Turner, DDS.... UF College of Dentistry associate professor in the Department of Prosthodontics
Helen Welsh, BSN, RN..... Nursing
Laura Wiggins, PharmD..... Pharmacy Services
Nicole Yucht Shands HealthCare Marketing and Public Relations

Narrative Summary of 2007 Data

The Shands at the University of Florida Oncology Data Center has analyzed data for all patients with reportable disease first seen at UF Shands Cancer Center between January 1, 2007 and December 31, 2007. During that time, 2,612 new cases were diagnosed and/or treated here as either inpatients, outpatients, or both. Of these cases, 2,074 were analytic (79%) meaning they received all or part of their first course of treatment at our facility. The remaining 538 cases (21%) were non-analytic, meaning patients were diagnosed and received their entire initial course of therapy elsewhere. The total new cases volume increased by 7% from 2006, and 12% for analytic cases. Increases were noted in many overall and analytic site groups; the greatest being male (36% - overall, 53% analytic) and urinary system (36% - overall, 45% - analytic). These are credited to the formation of the Genitourinary Oncology Center.

Top Sites

Increases were seen in numerous sites. Primary sites with the highest new cases volume overall were kidney/renal (43%) and prostate (41%). Analytic cases with the highest new cases volume were prostate

(58%), bladder (54%), and kidney/renal (45%), again, attributed to the establishment of the Genitourinary Oncology Center. Thoracic malignancies continue to be a large part of what we see. This is reflected with a noteworthy rise in lung/bronchus (25% - overall, 35% - analytic).

Service Area

Holding to our customary patterns, individuals from virtually every county in the State of Florida continued to seek care at the UF Shands Cancer Center. Individuals residing in counties of the North Central Florida and North East Florida area comprised 48% (1,263) of the total new cases in 2007. This is a 13% increase from 2006. Figures from the top individual counties reflect the following: Alachua - 473 (18%), Marion - 263 (10%), Out-of-State - 155 (6%), Lake - 125 (5%), and Volusia - 109 (4%), with a combined 1,125 (43%).

Gender/Race/Ethnicity/Age

Cases for females totaled 1,169, or 45%. Cases for males totaled 1,443, or 55%. The female group increased by 1%, and the males increased by 13% from 2006 figures.

New Cancer Cases

KEY:

These estimates are offered as a rough guide. They are calculated according to the distribution of estimated new cancer cases by state for the year 2008. These figures were obtained from the 2008 Cancer Facts & Figures, published by the American Cancer Society.

Excludes basal and squamous cell skin cancers and in-situ carcinomas (except urinary bladder).

***Shands at UF's figures were obtained from the total number of accessioned cases at Shands at UF during 2007.*

United States, Florida, and Shands at the University of Florida

PRIMARY SITE	UNITED STATES*	FLORIDA*	SHANDS AT UF**
Breast (Female)	182,460	11,850	206
	12.7%	11.6%	7.9%
Lung	215,020	17,360	192
	15.0%	17.0%	7.4%
Prostate	186,320	11,380	200
	13.0%	11.2%	7.7%
Colorectal	148,810	10,920	144
	10.4%	10.7%	5.5%
Bladder	68,810	5,390	69
	4.8%	5.3%	2.6%
Non-Hodgkin's Lymphoma	66,120	4,750	89
	4.6%	4.7%	3.4%
Corpus Uteri	40,100	2,450	56
	2.8%	2.4%	2.1%
Melanoma	62,480	4,430	126
	4.3%	4.3%	4.8%
Leukemia	44,270	3,190	71
	3.1%	3.1%	2.7%
Cervix	11,070	770	33
	0.8%	0.8%	1.3%
All Others	411,720	29,430	1,426
	28.6%	28.9%	54.6%
Total Cases	1,437,180	101,920	2,612
	100%	100%	100%

Top Sites: Reportable, Analytic Cases (AJCC/TNM Staging)

	TOTAL	0	I	II	III	IV	UNKNOWN	N/A
BRAIN/CNS	185	0	0	0	0	0	0	185
BREAST	165	40	56	39	13	9	7	1
LUNG/BRONCHUS	162	0	33	4	27	80	17	1
ORAL CAVITY	150	3	32	18	26	48	15	8
PROSTATE	150	0	0	128	14	8	0	0
TOTALS	812	43	121	189	80	145	39	195

Geographic Distribution by County

Alachua	473	Hamilton	14	Osceola	16
Baker	4	Hardee	2	Palm Beach	24
Bay	30	Hernando	23	Pasco	13
Bradford	47	Highlands	10	Pinellas	5
Brevard	84	Hillsborough	17	Polk	22
Broward	13	Holmes	4	Putnam	95
Calhoun	2	Indian River	24	St. Johns	44
Charlotte	14	Jackson	7	St. Lucie	28
Citrus	97	Jefferson	3	Santa Rosa	11
Clay	71	Lafayette	1	Sarasota	14
Collier	11	Lake	125	Seminole	31
Columbia	90	Lee	9	Sumter	55
Dade	3	Leon	60	Suwannee	59
Desoto	1	Levy	77	Taylor	12
Dixie	42	Madison	9	Union	16
Duval	57	Manatee	18	Volusia	109
Escambia	17	Marion	263	Wakulla	9
Flagler	27	Martin	12	Walton	10
Franklin	5	Monroe	1	Washington	7
Gadsden	20	Nassau	7	Out-of-state	155
Gilchrist	26	Okaloosa	11	Total	2,612
Glades	1	Okeechobee	4		
Gulf	2	Orange	39		

Ten Most Frequent Malignant Sites

SITE	COUNT
Breast	209
Prostate.....	200
Lung/Bronchus	192
Oral cavity	194
Colorectal	144
Melanoma	126
Liver.....	128
Kidney/Renal.....	96
Brain/CNS	233
Pancreas.....	95
All other sites.....	995
Total	2,612

