

RANDOLPH CANCER CENTER

2004

ANNUAL REPORT  
using 2003 statistical data



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# CHAIRMAN'S letter



*Christine H. McCarty, MD  
Chairman  
Randolph Cancer Center*

This year, 2004, was a banner year for Randolph Cancer Center. After more than five years of a fulltime presence, the program was surveyed by the American College of Surgeons and was granted accreditation as a Community Cancer Center. This is quite a “feather in our cap”, and serves as an acknowledgement that we strive to always provide the best and latest in cancer care. While the inspection by the American College of Surgeons is not mandatory it is highly valued within the oncology field. This accreditation by the Commission on Cancer is only granted to approximately 25 percent of cancer programs in this country. It highlights the fact that we offer important education and support programs as well as screening and prevention/early detection programs for persons living in our community. Additionally, we also constantly aim to monitor and upgrade our standards of oncology care and track outcomes of treatment.

Cancer incidence is on the rise in Randolph County, as we are constantly expanding our services to accommodate the needs of our patients. Randolph Cancer Center relocated to a facility almost twice as large with more capacity for the administration of chemotherapy and other infusions. This move allowed for a full-time pharmacist and lab facilities that enable the delivery of more timely results and therapies. We also upgraded the appearance of the cancer center with a lovely mural painted in the waiting room. This was donated to Randolph Cancer Center by Marilyn Kearney and depicts a beautiful zoo theme. This new building has allowed for a more pleasant surrounding for our patients.

In addition to the new location, we have been able to initiate a van transportation program to aid patients in traveling to Greensboro to receive their radiation therapy. While this assists in a small way, we realize the ideal situation would be to have radiation therapy available in Randolph County, and we continue to plan for that in the future.

This annual report chronicles our latest statistics in cancer cases. We also highlight information on multiple myeloma as seen in Randolph County. We performed a study on the utilization of zoledronic acid, a biphosphonate, in preventing skeletal complications of this disease. The results of that study are included in this report.

As we move forward with our cancer program, we will continue to look for ways to improve the quality of care available for all oncology patients in the county. We will also strive to find ways to lower the incidence of cancer within Randolph County through prevention and early detection programs.

*Christine H. McCarty, MD  
Chairman  
Randolph Cancer Center*

# CANCER LIAISON PHYSICIAN **letter**

In 2004 the Randolph Cancer Center achieved approval as a community cancer center from the Commission on Cancer of the American College of Surgeons. This wonderful accomplishment shows our community the continued dedication of local healthcare providers and supporting staff. We strive to improve patient care continually. Our close relationship with the American Cancer Society allows us to monitor and support the cancer program as well as the patients, their families and their friends who are touched by this disease.

Beginning in 2004 our cancer program through its Tumor Conference presents all patients who are diagnosed with breast cancer. The Tumor Conference is a multidisciplinary group of expert physicians who discuss the best treatment options for patients with cancer. This is only a beginning step in our attempt to control the treatment of patients with breast cancer in order to improve patient outcomes.

Community outreach is a top priority of the Cancer Liaison Physician. To achieve this goal we continue to promote community cancer screenings and support groups for cancer. In addition, information about cancer is readily available to the public at the hospital library. The new and improved Web site for Randolph Hospital offers a wide variety of cancer-related articles and it links to the services provided at the Randolph Cancer Center including different trials underway as well as last year's annual report. The Web site also links viewers with available oncologists as well as any and all screenings, seminars and support groups available to assist those with cancer.

Being an approved cancer center is more than a certificate on a wall. Approval shows the commitment of the cancer program to strive for excellence in patient care. The patients in our community receive numerous benefits from a multidisciplinary approach to cancer. Quality of care is now closer to home than ever before.



*Michael D. Lininger, MD, FACS  
Cancer Liaison Physician  
Randolph Cancer Center*

*Michael D. Lininger, MD, FACS  
General Surgeon  
Cancer Liaison Physician*

# education

## 2003 Speaker's Bureau:

**January 21** – “Guidelines for Cervical Health”

presented by Pamela Penner, MD

**January 21** – “Harmful Effects of Tobacco”

presented by Ellen Wright, RN

**February 7** – “Good Nutrition”

presented by Shannon Williamson, RD

**February 11** – “Heart Healthy Diet”

presented by Karen Pfohl, RD

**March 11** – “Breast Cancer”

presented by Christine McCarty, MD and Frankie Khan, RN

**April 12** – “Ladies Health Issues—Breast Cancer”

presented by Frankie Khan, RN

**May 22** – “Stress Management”

presented by Sherri Millikan, RN

**June 10** – “Prostate Health Awareness”

presented by Roberto Chao, MD

**September 23** – “I Can Cope”

**September 30** – “I Can Cope”

**October 2** – “Breast Cancer Awareness”

presented by Kathy Needham, RT

**October 14** – “Pretty in Pink”

**November 14** – Breast Cancer Awareness”

presented by Christine McCarty, MD

## 2003 Cancer Screenings:

**May 8** – Skin Cancer Screening

**July 8** – Oral Cancer Screening

**September 16, 17, & 18** – Prostate Cancer Screening

**November 8** – Cervical Cancer Screening

## 2003 Staff Education

**March** – “Palliative Care” and “Morphine Drips”

**August** – “Specialty Venous Access Catheters”

# conference report

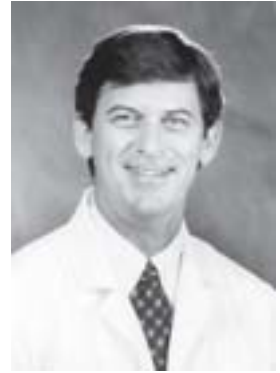
The Tumor Conference is a multidisciplinary conference composed of oncologists, radiologists, surgeons, pathologists, radiation oncologists, primary care physicians and nurses. The conference meets twice per month to present, review, discuss and offer recommendations for management and/or treatment of patients with cancer, who will receive their treatment at Randolph Cancer Center.

Based on data derived from the Tumor Registry for Randolph Hospital, there were 268 analytical cases in 2003. An analytical case is defined as a patient with cancer who was diagnosed and/or received all or part of his/her first course of treatment at Randolph Hospital or Randolph Cancer Center between January 1 and December 31, 2003. The five most common anatomic sites in order of frequency were:

1.	Breast	46 cases
2.	Colorectal	34 cases
3.	Prostate	33 cases
3.	Lung	33 cases
5.	Lymphoma	26 cases

The American College of Surgeons recommends the total number of cases presented at the Tumor Conference by the end of the calendar year be equal to or exceed 10 percent of the annual analytical caseload. In addition, the cases must be representative of the hospital's case mix. The following table illustrates the total cases presented at the Tumor Conference for 2003, which met the American College of Surgeon's requirement for an accredited program.

Primary Site	Number of Cases
Lymphoma/Leukemia	15
Breast	12
Kidney	11
Colorectal	10
Lung	7
Liver	4
Bladder	3
Prostate	3
Unknown Primary	3
Urothelial	3
Myeloma	2
Thyroid	2
Bone	1
Esophagus	1
Lip and Oral Cavity	1
Melanoma	1
Ovary	1
Penis	1
Submandibular	1
Testicle	1
<b>Total</b>	<b>83</b>



*Robert S. McGee, MD, PhD*  
*Tumor Conference Chairman*

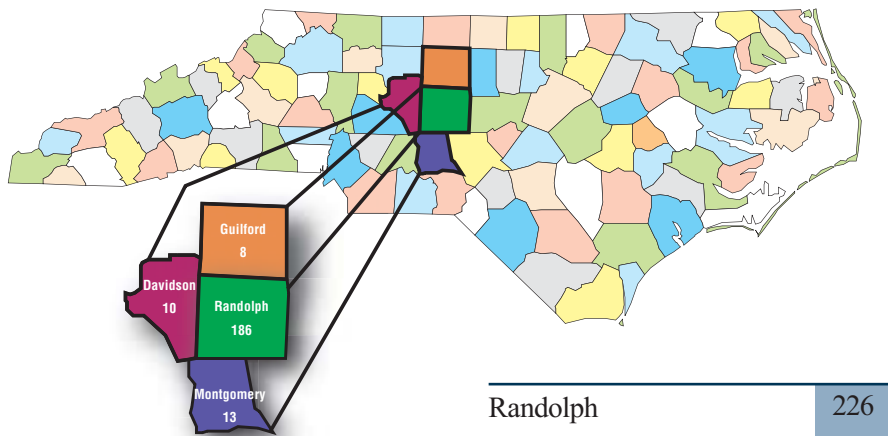
# registry report

The Cancer Registry for Randolph Hospital was established January 1, 1998, to collect, manage and analyze statistical data on all cancer patients diagnosed and/or treated at Randolph Hospital and Randolph Cancer Center. The registry's program is patterned to meet the requirements of the American College of Surgeons Commission on Cancer and is designed to describe characteristics, modalities of therapy and patient survival experiences. The main objective of the registry is to collect and abstract basic cancer information related to Randolph Hospital's cancer population that will assist the various members of the medical community in evaluating the effectiveness of cancer treatments, which in turn can be used to improve patient outcomes.

A total of 292 cases were accessioned into the database in 2003. Of these, 268 were analytical cases. Analytic cases include all reportable cases first diagnosed and/or receiving all or partial treatment at Randolph Hospital or Randolph Cancer Center in 2003. Non-analytic cases include cases which received at least one complete course of therapy elsewhere and are being seen at Randolph Hospital or Randolph Cancer Center for subsequent treatment.

The cancer registry maintains lifetime follow-up on patients entered into the database. It also serves as a reminder to physicians and patients to schedule physical examinations to assure continued medical surveillance in hopes of improving early detection of recurrent or metastatic disease. Since January 1, 1998, a total of 1,307 analytic cases have been accessioned into the database. Of these, 488 patients have expired with a total of 819 patients to be followed. The American College of Surgeons Commission on Cancer requires at least an 80 percent follow-up rate on all patients accessioned in the database since it was established. Our current follow-up rate since inception is 94.2 percent. The American College of Surgeons Commission on Cancer requires at least a 90 percent follow-up rate on all patients accessioned in the database for the last five years. Our current follow-up rate is 94.73 percent for the last five years. Some of the main sources for gathering follow-up information are physicians, hospitals, patient contact and the social security death index.

**Figure 1: North Carolina Service Area  
Number of Cancer Occurrences During 2003 by County**



Randolph	226
Montgomery	12
Davidson	10
Guilford	8
Other	12

# CANCER registry report

The registry was contacted to provide information from the database to assist in two patient care studies using data from 2003 cases. The case study topics were breast cancer and multiple myeloma. In addition, the Cancer Registry reported cancer data to the North Carolina Central Cancer Registry, submitted data on newly diagnosed cancer cases to the American College of Surgeons Commission on Cancer's National Cancer Database and provided statistical information requested by Randolph Hospital, Randolph Cancer Center or physicians to assist them with projects.

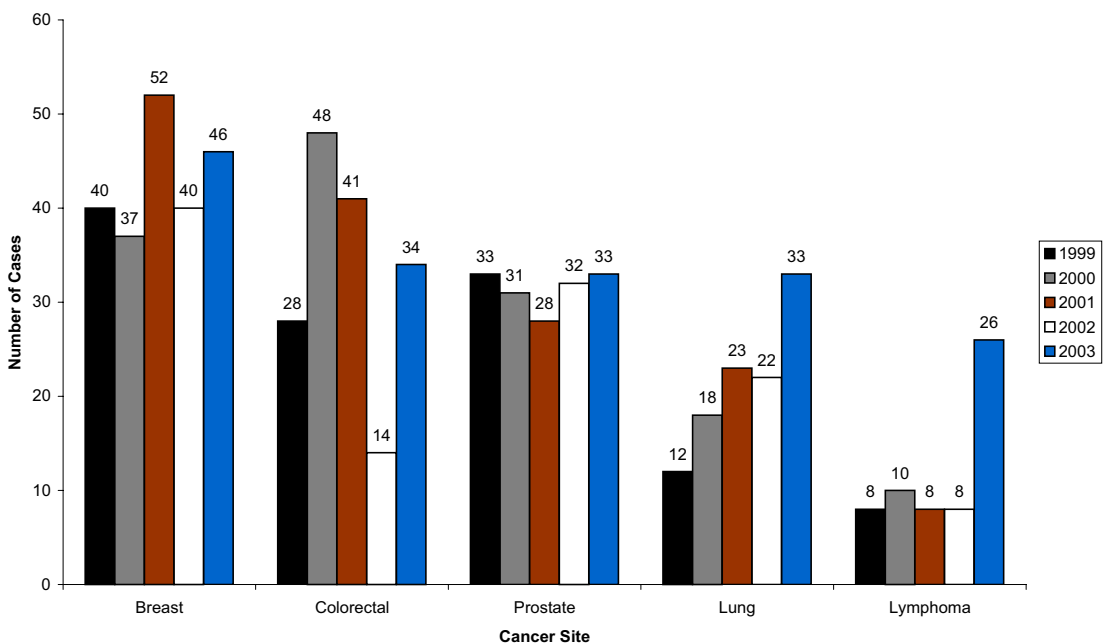
In an effort to keep abreast of current issues, the staff attends various educational meetings throughout the year provided by the Association of North Carolina Cancer Registrars and the National Cancer Registrars Association. The Cancer Registry phone number is (336) 832-0832.

The occurrence of cancer in Randolph County by gender and stage of disease is displayed in **Table 1** (located on page 8). The information parallels similar population demographics in the county as depicted in **Figure 1** (located on page 6). While 78 percent of all lung cancers continued to be diagnosed at Stage III or IV there was an eight percent decrease in this number from the data provided in 2002.

**Figure 2** (below) outlines the five leading cancer sites from 1999 to 2003. Of the five leading cancer sites, breast cancer continues to be the most common site with 46 cases. The other leading sites in 2003 are colorectal cancer, prostate cancer, lung cancer and lymphoma. Lymphomas entered into the top five sites for the first time, exceeded only by the first four cancers listed.

National estimates and local actual comparisons of the top three cancer sites by sex is shown in **Figure 3** (located on page 8). Local breast cancer rates continue to slightly exceed the national estimates. Local rates for prostate cancer are below the national estimate, while new lung cancers in males and colorectal cancers in males and females exceed the national estimates.

**Figure 2:** Five Leading Cancer Sites in 2003  
A Five Year Comparison



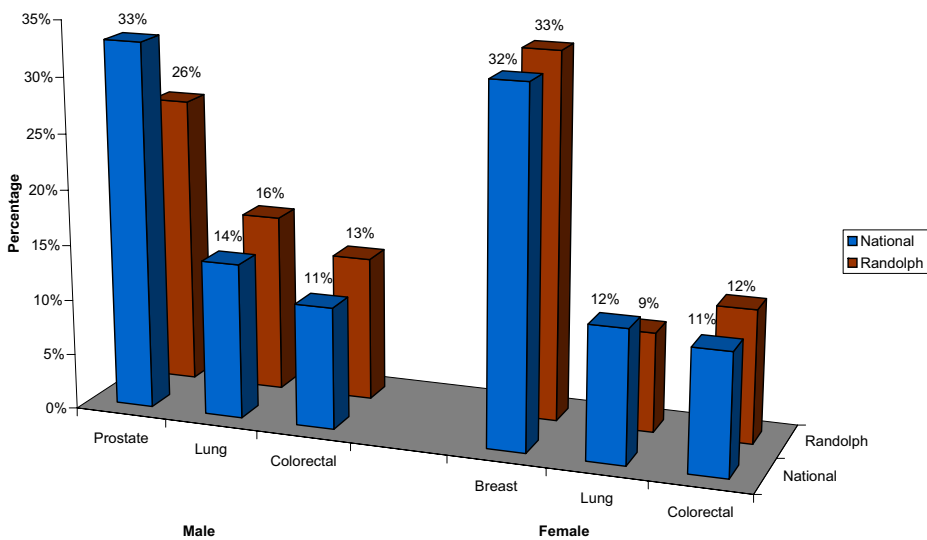
# CANCER registry report

**Table 1:**

Primary Site	Total	Male	Female	0	I	II	III	IV	UNK	N/A
Breast	46	-	46	5	13	16	5	7	-	-
Colorectal	34	17	17	-	7	11	7	8	1	-
Prostate Gland	33	33	-	-	1	25	1	6	-	-
Lung/Bronchus	33	20	13	-	6	1	10	16	-	-
Lymph Nodes	26	12	14	-	7	9	6	1	2	1
Kidney/Renal	15	9	6	-	10	1	-	4	-	-
Blood/Bone Marrow	13	9	4	-	-	-	-	-	-	13
Bladder	12	5	7	4	4	2	1	1	-	-
Uterus	8	-	8	-	4	1	2	1	-	-
Skin/Melanoma	6	4	2	-	1	1	1	1	2	-
Liver	5	3	2	-	-	1	4	-	-	-
Ovary	5	-	5	-	1	-	2	2	-	-
Other Digestive System	5	1	4	-	1	2	-	2	-	-
Stomach	4	3	1	-	1	-	1	1	1	-
Pancreas	3	1	2	-	1	-	-	2	-	-
Esophagus	2	2	-	-	1	-	1	-	-	-
Larynx	2	2	-	1	1	-	-	-	-	-
Connective/Soft Tissue	2	2	-	-	2	-	-	-	-	-
Vulva	2	-	2	-	1	-	-	1	-	-
Testis	2	2	-	-	2	-	-	-	-	-
Other Urinary System	2	1	1	1	1	-	-	-	-	-
Unknown Primary	2	-	2	-	-	-	-	-	-	2
Other Oral Cavity	1	1	-	-	-	-	-	-	1	-
Anus/Anal Canal	1	-	1	-	-	-	1	-	-	-
Brain (Malignant)	1	-	1	-	-	-	-	-	-	1
Thyroid	1	-	1	-	1	-	-	-	-	-
Other Endocrine	1	-	1	-	-	-	-	-	-	1
Other Ill Defined Sites	1	1	-	-	-	-	-	1	-	-
<b>Total</b>	<b>268</b>	<b>128</b>	<b>140</b>	<b>11</b>	<b>66</b>	<b>70</b>	<b>42</b>	<b>54</b>	<b>7</b>	<b>18</b>

**Figure 3**

**Comparison Between 2003 National Estimates and 2003 Randolph County Actual Leading Sites of New Cancer Cases**



# multiple myeloma

Multiple myeloma is a plasma cell malignancy characterized by lytic lesions involving the bones and an increased propensity for fractures and hypercalcemia. Its presentation can be variable, but hallmarks include: a monoclonal protein spike in the serum or urine, or both; anemia or even pancytopenia; renal insufficiency and skeletal complications. It accounts for 10 percent of hematological malignancies and is more common with advancing age. **Table 2** (located on page 12) illustrates a common system of applying major and minor criteria to diagnose multiple myeloma or other variants. Benign monoclonal gammopathy is currently labeled as MGUS, monoclonal gammopathy of unknown significance. Approximately 25 percent of these cases can progress to multiple myeloma, but this can occur over a period as long as 20 years.

Our tumor registry contained 23 cases of multiple myeloma diagnosed at Randolph Hospital during the period of 1998 to 2003. The age of the patient at the time of diagnosis varied as shown in **Figure 4** (located on page 10), with the majority diagnosed after age 60. The North Carolina registry reported 1,145 cases during the same time period, with 81.8 percent occurring in the 45-79 age group and 14.8 percent over the age of 80. The age at diagnosis for patients with multiple myeloma at our center has a similar distribution.

Treatment options utilized in the care of multiple myeloma patients during this time period are detailed in **Figure 5** (located on page 11). Treatment was primarily chemotherapy. A second modality was the use of hormone therapy as the sole agent or in conjunction with chemotherapy. Occasionally patients received only radiotherapy or combinations of other treatments. Some patients received no therapy at all, based on age and comorbid conditions. Our patterns of therapy parallel those in the North Carolina registry data. Outcomes for the patients included in our study are shown in **Figure 6** (located in page 11). Thirteen of 23 Randolph County patients have expired from their multiple myeloma and 10 continue to survive with their disease. Survival rates nationally and in North Carolina are at approximately 20 percent. Given the small number of cases in our study, it is difficult to compare our rates with those seen nationally or statewide.

The Cancer Committee recommended that a study of the use of zoledronic acid in the prevention of skeletal complications in patients with multiple myeloma be conducted. This was a retrospective study from January 2001 to December 2003. The data was collected by the oncology nurses at the Randolph Cancer Center and was designed to look at certain issues with the administration of this drug. Thirteen charts and 59 zoledronic acid administrations were audited. The questions that were evaluated on each of the 59 administrations were as follows:

1. Was the drug administered properly
2. Was the patient taking calcium supplements?
3. Was the patient on any concurrent nephrotoxic therapy?
4. What was the skeletal complication rate?
5. Was the renal function monitored?
6. Was the drug stopped and why?
7. Did skeletal progression occur in any patients on zoledronic acid?

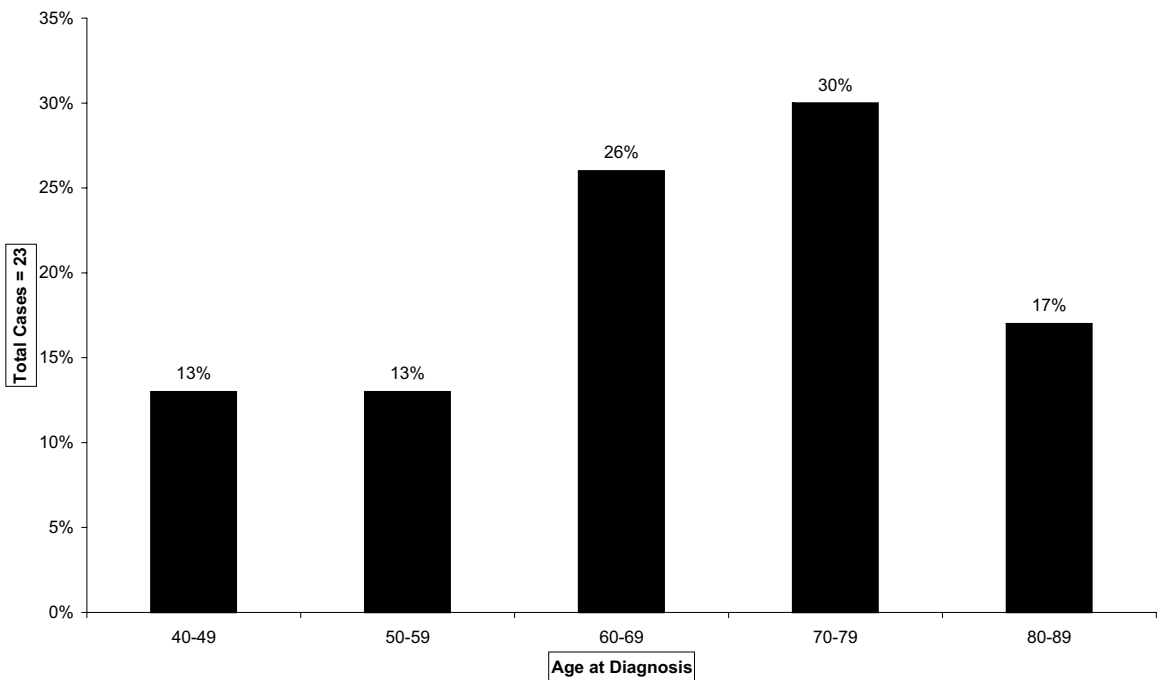
# multiple myeloma

The audit of the 13 charts and 59 zoledronic acid administrations led to the following findings to the questions outlined on the previous page:

- n 72 percent of the zoledronic acid infusions were administered properly over 30 minutes and 100 percent of the infusions were mixed in the proper amount of fluid.
- n 87 percent of patients were adequately hydrated with a BUN (Blood Urea Nitrogen) less than 20.
- n 47 percent of the patients were taking calcium supplements daily.
- n 31 percent of the patients were taking concurrent nephrotoxic drugs.
- n 97 percent of the patients had a BUN and creatinine prior to each infusion of Zoledronic Acid. Of these 75 percent had a creatinine that was within normal limits.
- n 91 percent of the patients in the study had calcium levels that were within normal limits.
- n Zoledronic acid was discontinued or held in 15 percent (2 cases) of the patients in the study.
  - o The reason for the discontinuation was worsening renal function in one case.
  - o One of the two patients had the drug held for five doses due to poor renal function; however the drug was resumed after renal function improved.
- n Skeletal progression occurred in 31 percent (4 cases) of the patients in the study.

Figure 4:

**Multiple Myeloma at Randolph Hospital 1998-2003  
Age at Diagnosis**



# multiple myeloma

In summary, several recommendations were presented to the Cancer Committee and adopted for the care of multiple myeloma patients receiving zoledronic acid. The first recommendation was that a BUN and creatinine be obtained on all patients prior to the administration of each Zoledronic Acid dose. This information should be documented on the patient’s flow sheet. The second recommendation was that each patient’s medication list be reviewed thoroughly for other nephrotoxic drugs before administering zoledronic acid and that these drugs be adjusted as needed to lessen the potential nephrotoxic complications. The third recommendation involved the education of all multiple myeloma patients surrounding the use of calcium supplements. It was also recommended that the use of these supplements be documented on the medication summary sheet at each visit. The final recommendation was to provide education regarding these guidelines to all oncology nursing staff at the Randolph Cancer Center.

Figure 5:

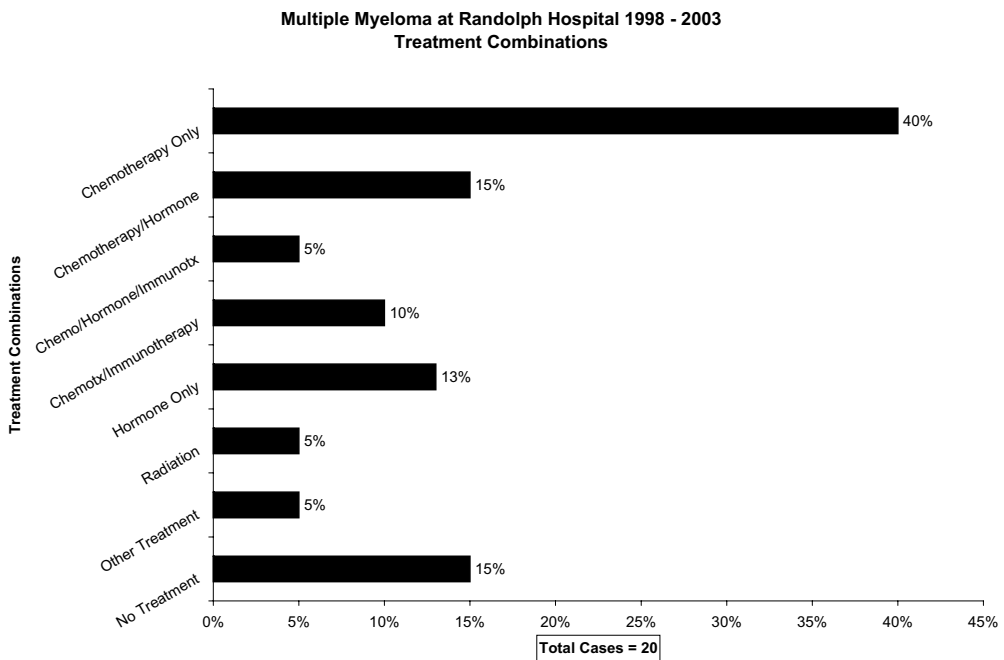
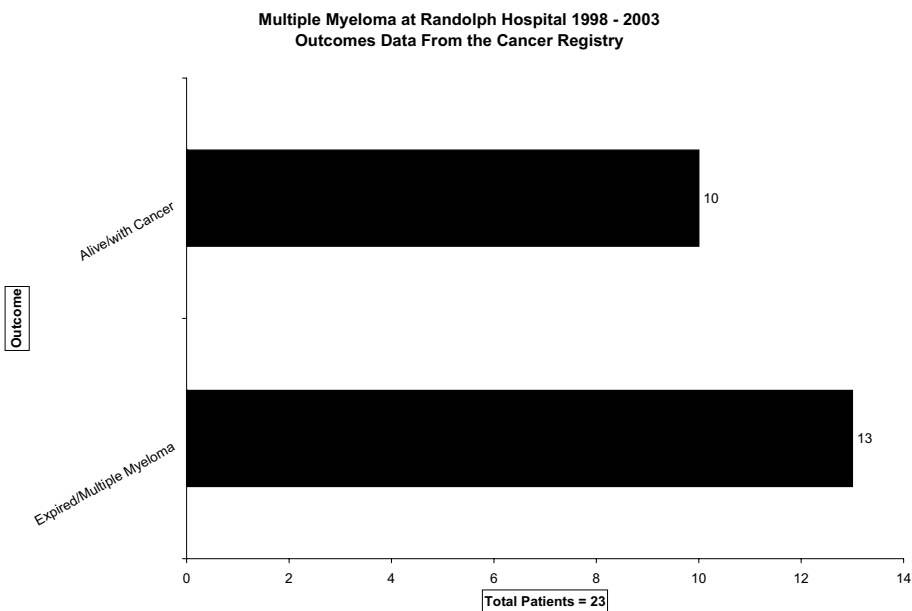


Figure 6:



**Table 2:**Diagnosis of Multiple Myeloma, Smoldering Myeloma and Monoclonal Gammopathy of Undertimed Significance (MGUS)

### **Major Criteria**

- I. Plasmacytoma on tissue biopsy
- II. Bone marrow plasmacytosis with > 30% plasma cells
- III. Monoclonal globulin spike on serum electrophoresis  
>3.5 g/dl for IgG  
>2 g/dl for IgA  
≥1 g/24 hr for k or l Bence Jones proteinuria

### **Minor Criteria**

- a) Bone marrow plasmacytosis 10-30%
- b) Monoclonal globulin spike  
<3.5 g/dl for IgG  
<2 g/dl for IgA  
≤1 g/24 hr for K or l Bence Jones proteinuria
- c) Lytic bone lesions
- d) Uninvolved immunoglobulin levels IgM <50 mg/dl, IgA <100 mg/dl, or IgG < 600mg/dl

### **Diagnosis of Multiple Myeloma**

In a symptomatic patient requires a minimum of one major + one minor criterion

I + b, I + c, I + d (not I + a)

II + b, II + c, II + d

III + a, III + c, III + d

or three minor criteria that must include a + b

a + b + c or a + b + d

### **Indolent Myeloma**

No bone lesions or limited bone lesions (<3 lytic lesions) no compression fractures

M protein levels IgG ≤7 g/dl, IgA ≤5 g/dl

No symptoms or associated disease features

Performance status >70%

Hemoglobin >10 g/dl

Serum calcium normal

Serum creatinine <2 mg/dl

No infections

### **Smoldering Myeloma**

Same as indolent myeloma except:

No bone lesions

Bone marrow plasma cells ≤30%

### **Monoclonal Gammopathy of Undetermined Significance (MGUS)**

Monoclonal gammopathy

M protein level: IgG ≤3.5 g/dl, IgA ≤2 g/dl, BJ protein ≤1 g/24hr

Bone marrow plasma cells <10%

No bone lesions, no symptoms

#### References:

CA, Cancer Journal for Clinicians, Sept/Oct 2001 Vol. 51/No5 American Cancer Society  
Cancer, September 1, 2003, Vol. 98/No. 5 "Zoledronic Acid Delays Onset of Skeletal Related Events and Progression of Skeletal Disease in Patients with Advanced Renal Renal Cell Carcinoma".

Devita, et. Al. Cancer, Principles and Practice of Oncology, 6<sup>th</sup> Edition, 2001, Lippincott, Williams, and Wilkins.



