

1992  
ANNUAL REPORT  
OF THE  
TUMOR REGISTRY



KING FAISAL SPECIALIST HOSPITAL & RESEARCH CENTRE  
RIYADH, KINGDOM OF SAUDI ARABIA

#### ACKNOWLEDGEMENTS:

The Cancer Program is a combined effort of many individuals. It is not possible to enumerate all the nurses, technicians, therapists, pharmacists, dentists, physicians, scientists, social workers and others whose work is primarily on behalf of the patient with cancer. In addition, nearly everyone associated with the hospital comes in contact with the cancer patient from time to time, frequently contributing significantly to their care. The staff of the Tumor Registry and members of the Tumor Committee recognize this hospital-wide involvement in the care of cancer patients. The information in this report is provided to assist all health care professionals to better understand the problems faced in treating patients with cancer.

The following Departments have assisted throughout the year and without their invaluable support this report would not be possible. The Tumor Registry staff acknowledges these Departments:

Department of Pathology & Laboratory Medicine  
Computer and Hospital Information Centre  
Medical Records Department  
Department of Oncology

#### SPECIAL THANKS TO:

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Rajeh Sabbah, M.D., Acting Chairman, Oncology Department  
Mohd Maghazil, Computer & Hospital Information Centre  
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## I. KING FAISAL SPECIALIST HOSPITAL & RESEARCH CENTRE CANCER PROGRAM ACTIVITIES

### Tumor Registry

The King Faisal Specialist Hospital and Research Centre opened in July 1975 to provide specialized medical treatment to the people of Saudi Arabia and to promote the prevention of disease through research and education. It is a national and international tertiary hospital for Oncology and the principal center for cancer therapy in Saudi Arabia. There are about 500 inpatient beds.

The KFSH&RC Tumor Registry is a data system designed for the collection, management, and analysis of data on patients with the diagnosis of a malignant disease (cancer). The Registry was designed to meet one of the guidelines for an approved American College of Surgeons (ACoS) Cancer Program and the data set contains all ACoS required data items.

The primary responsibility of the Registrar is to assure that complete and accurate data are collected and maintained on all cancer patients diagnosed and/or treated within this institution. Records are reviewed for both inpatients (patients admitted to the Hospital) and outpatients (patients seen in the clinic, emergency room, Polyclinic, Family Health, or other hospital facility).

One goal of the Tumor Registry of KFSH&RC is to provide the medical staff with data that will enable them to see the results of their diagnostic and therapeutic efforts, and to provide them with information with which to improve the care of the patient with cancer. The basic source document is the patient's medical record from which pertinent information is abstracted for use in the Registry. It is imperative that the medical staff document in the medical record the information to be abstracted into the worksheet because they are eventually the end users of these information. Without these, no substantial data can be collected and, therefore, no meaningful studies can be made. The quality of data that the Registry generates depends entirely on the physicians' accurate documentation of patient information in the medical record.

The Cancer Registry Worksheet is the primary document on which the details of each diagnosed cancer patient are recorded. Included are pertinent facts such as demographic information, medical history, diagnostic findings, stage of disease, cancer therapy, and follow-up data. Please refer to Figures 1-A to 1-D for a sample worksheet.

Once the data are collected, the ability and need to utilize them is paramount. One of the major functions of the Tumor Registry is to prepare annual reports which summarize the Registry's cancer experience. It also provides a wide variety of reports at the request of physicians and researchers.

Additionally, the Registry serves as a resource for continuing education of physicians and paramedical personnel at clinical conferences, medical society meetings, seminars, and discussion groups. The Tumor Registry can serve as the focus for the interdisciplinary approach to cancer management, including surgery, radiotherapy, chemotherapy, immunotherapy, and hormone therapy. The Registry can provide the hospital staff, both medical and administrative, with statistical and analytic summary reports evaluating the cancer problem in the institution. These reports assist administrators with solving their operational problems and assist physicians with the development of comprehensive cancer care.

The Registry, under the medical supervision of the Tumor Committee, maintains a complete database of all cancer cases diagnosed and/or treated at KFSH&RC. The database is computerized using an IBM 3090 Main Frame Computer. Although the Tumor Registry is not population based, KFSH&RC is the primary referral institution for the Kingdom and therefore represents the majority of oncology patients. Until mid-1981, it was the only facility within the Kingdom able to provide radiation therapy.

FIGURE 1-A

**KING FAISAL SPECIALIST HOSPITAL  
AND RESEARCH CENTRE**

**CANCER REGISTRY WORKSHEET  
(CanSur 3.0)**

PATIENT NAME/PLATE

<p><b>PF 10 TACS - ACCESSION FILE MAINTENANCE</b></p> <p>ACCESSION NUMBER (ACSH): <u>870123</u></p> <p>TUMOR SEQUENCE (SEQ): <u>00</u></p> <table style="font-size: small;"> <tr> <td><b>Malignant/In situ tumors</b></td> <td><b>Benign tumors</b></td> </tr> <tr> <td>00 - One primary only</td> <td>XX - One primary only</td> </tr> <tr> <td>01 - First of two or more</td> <td>AA - First of two or more</td> </tr> <tr> <td>02 - 2nd or later primary</td> <td>BB - 2nd or later primary</td> </tr> <tr> <td>03 - 3rd or later primary</td> <td>CC - 3rd or later primary</td> </tr> <tr> <td>04 - Unspecified sequence</td> <td>DD - Unspecified sequence</td> </tr> </table> <p>THIS CANCER ACCESSION YEAR: <u>87</u></p> <p>MEDICAL RECORD NO.: <u>394657</u></p> <p>CASE STATUS: <u>3</u></p> <table style="font-size: x-small;"> <tr><td>0 - Suspense</td></tr> <tr><td>1 - Incomplete</td></tr> <tr><td>3 - Completed per Release 3</td></tr> </table> <p>PATIENT NAME</p> <p>Last: _____</p> <p>First: _____</p> <p>Second: _____</p> <p>Third: _____</p> <p>ADDRESS AT DIAGNOSIS</p> <p>P.O. Box _____</p> <p style="text-align: center;"><u>Riyadh</u></p> <p style="text-align: center;">City</p> <p><u>RY</u> ZIP Code: _____ - _____</p> <p style="text-align: center;">Prov.</p>	<b>Malignant/In situ tumors</b>	<b>Benign tumors</b>	00 - One primary only	XX - One primary only	01 - First of two or more	AA - First of two or more	02 - 2nd or later primary	BB - 2nd or later primary	03 - 3rd or later primary	CC - 3rd or later primary	04 - Unspecified sequence	DD - Unspecified sequence	0 - Suspense	1 - Incomplete	3 - Completed per Release 3	<p><b>MARITAL STATUS AT DX:</b> <u>2</u></p> <table style="font-size: x-small;"> <tr> <td>1 - Single</td> <td>3 - Separated</td> <td>5 - Widowed</td> </tr> <tr> <td><u>2</u> - Married</td> <td>4 - Divorced</td> <td>9 - Unknown</td> </tr> </table> <p><b>RELIGION:</b> <u>01</u></p> <table style="font-size: x-small;"> <tr> <td><u>01</u> - Muslim</td> <td>03 - Hindu</td> <td>06 - Other</td> </tr> <tr> <td>02 - Christian</td> <td>04 - Buddhist</td> <td>09 - Unknown</td> </tr> </table> <p><b>ALCOHOL USAGE:</b> <u>3</u></p> <table style="font-size: x-small;"> <tr> <td>1 - Current alcohol usage</td> <td><u>3</u> - Never used alcohol</td> </tr> <tr> <td>2 - Past history of alcohol usage</td> <td>9 - Unknown</td> </tr> </table> <p><b>FAMILY HISTORY OF CANCER:</b> <u>1</u></p> <table style="font-size: x-small;"> <tr> <td><u>1</u> - Family history of cancer</td> <td>9 - Unknown</td> </tr> <tr> <td>2 - No family history of cancer</td> <td></td> </tr> </table> <p><b>SMOKING/CHEWING HISTORY:</b> <u>3</u></p> <table style="font-size: x-small;"> <tr> <td>1 - Current smoker cig.</td> <td>5 - Shamma</td> </tr> <tr> <td><u>3</u> - Past smoker</td> <td>6 - Shisha</td> </tr> <tr> <td><u>3</u> - Patient never smoked</td> <td>7 - Combo</td> </tr> <tr> <td>4 - Chai</td> <td>8 - Other</td> </tr> <tr> <td></td> <td>9 - Unknown</td> </tr> </table> <p>TOTAL PACK YEARS: _____</p> <p>INDUSTRY: _____</p> <p>OCCUPATION: <u>Teacher</u></p> <p>DATE ADMITTED: (mm/dd/yyyy) <u>01/20/1987</u></p> <p>DATE DISCHARGED: (mm/dd/yyyy) <u>02/15/1987</u></p> <p><b>REPORTING SOURCE:</b> <u>1</u></p> <table style="font-size: x-small;"> <tr> <td><u>1</u> - Inpatient</td> <td>4 - Physician's office</td> <td>7 - Death Cert.</td> </tr> <tr> <td>2 - Clinic/outpatient</td> <td>5 - Nursing home</td> <td>9 - Unknown</td> </tr> <tr> <td>3 - Laboratory</td> <td>6 - Autopsy</td> <td></td> </tr> </table> <p><b>HOSPITAL REFERRED FROM:</b> <u>0000101</u></p> <p style="text-align: center;"><u>Riyadh Central Hospital</u></p> <p><b>HOSPITAL REFERRED TO:</b> _____</p>	1 - Single	3 - Separated	5 - Widowed	<u>2</u> - Married	4 - Divorced	9 - Unknown	<u>01</u> - Muslim	03 - Hindu	06 - Other	02 - Christian	04 - Buddhist	09 - Unknown	1 - Current alcohol usage	<u>3</u> - Never used alcohol	2 - Past history of alcohol usage	9 - Unknown	<u>1</u> - Family history of cancer	9 - Unknown	2 - No family history of cancer		1 - Current smoker cig.	5 - Shamma	<u>3</u> - Past smoker	6 - Shisha	<u>3</u> - Patient never smoked	7 - Combo	4 - Chai	8 - Other		9 - Unknown	<u>1</u> - Inpatient	4 - Physician's office	7 - Death Cert.	2 - Clinic/outpatient	5 - Nursing home	9 - Unknown	3 - Laboratory	6 - Autopsy	
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<p><b>PF 11 TPAT - PATIENT IDENTIFICATION</b></p> <p>SAUDI ID: <u>12345</u></p> <p>BIRTH DATE: <u>01/01/1946</u></p> <p>AGE AT DX: <u>041</u></p> <p>SEX: <u>2</u></p> <table style="font-size: x-small;"> <tr> <td>1 - Male</td> <td><u>2</u> - Female</td> <td>9 - Unknown</td> </tr> </table> <p>NATIONALITY: <u>00</u></p> <table style="font-size: x-small;"> <tr> <td><u>00</u> - Saudi</td> <td>04 - Yemeni</td> <td>08 - Other</td> </tr> <tr> <td>01 - Amer, Can, Brit</td> <td>05 - Other Arab</td> <td>09 - Other</td> </tr> <tr> <td>02 - Egyptian</td> <td>06 - Ind, Pak</td> <td></td> </tr> <tr> <td>03 - Leb, Syr, Pal</td> <td>07 - African</td> <td></td> </tr> </table>	1 - Male	<u>2</u> - Female	9 - Unknown	<u>00</u> - Saudi	04 - Yemeni	08 - Other	01 - Amer, Can, Brit	05 - Other Arab	09 - Other	02 - Egyptian	06 - Ind, Pak		03 - Leb, Syr, Pal	07 - African																																									
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FIGURE 1-B

<p><b>PF 12</b>                      <b>TEXT - MISCELLANEOUS TEXT</b></p> <p>PHYSICAL EXAM: 6-mo hx 2 cm mass rt breast UOQ, mobile, no skin changes. 3x4 cm rt axillary LN. Lt breast NED.</p> <hr/> <p>X RAYS / SCANS: 01/20/87 Bilat Mammogram - 2x2.5x2.5 cm mass rt breast UOQ. CXR, Bone Scan, U/S Abdomen - NED</p> <hr/> <p>SCOPES / LAB: 01/25/87 ERA (+), PRA (+)</p> <hr/> <p>OPERATIVE FINDINGS: 01/25/87 Rt Mod Rad Mastectomy - no description of tumor.</p> <hr/> <p>PATHOLOGY / AUTOPSY: 87SP3286 01/25/87 Duct Cell Ca, gr 3; 11/19 LN's. (tumor size: 2.2x2x1.8 cm completely excised) Nipple &amp; overlying skin NED. (largest LN 1.5 cm)</p>	<p style="text-align: center;"><b>TCAN - Cancer Identification (Continued)</b></p> <p><b>GRADE:</b> <span style="float: right;">3</span></p> <table style="width: 100%; border: none;"> <tr> <td>1 - Well differentiated (I)</td> <td>5 - T-cell</td> </tr> <tr> <td>2 - Mod well differentiated (II)</td> <td>6 - B-cell</td> </tr> <tr> <td>3 - Poorly differentiated (III)</td> <td>7 - Null cell</td> </tr> <tr> <td>4 - Undifferentiated (IV)</td> <td>9 - Not stated, unknown</td> </tr> </table> <p><b>LATERALITY:</b> <span style="float: right;">1</span></p> <table style="width: 100%; border: none;"> <tr> <td>0 - Not paired organ</td> <td>3 - Rt or lt unspecified</td> </tr> <tr> <td>1 - Right</td> <td>4 - Both, simultaneous</td> </tr> <tr> <td>2 - Left</td> <td>9 - Unknown laterality</td> </tr> </table> <p><b>DX CONFIRMATION:</b> <span style="float: right;">1</span></p> <table style="width: 100%; border: none;"> <tr> <td>1 - Positive histology</td> <td>6 - Direct visualization</td> </tr> <tr> <td>2 - Cytology</td> <td>7 - Radiography</td> </tr> <tr> <td>4 - Pos. micro, confirm, NOS</td> <td>8 - Clinical</td> </tr> <tr> <td>5 - Laboratory test/marker</td> <td>9 - Unknown</td> </tr> </table> <p><b>REGIONAL NODES EXAMINED:</b> <span style="float: right;">1 9</span></p> <table style="width: 100%; border: none;"> <tr> <td>00 - No nodes examined</td> <td>97 - 97 + nodes examined</td> </tr> <tr> <td>01 - One node examined</td> <td>98 - Nodes examined, number unknown</td> </tr> <tr> <td>...</td> <td>99 - Unknown if nodes examined</td> </tr> </table> <p><b>REGIONAL NODES POSITIVE:</b> <span style="float: right;">1 1</span></p> <table style="width: 100%; border: none;"> <tr> <td>00 - No nodes positive</td> <td>97 - Positive nodes, number unknown</td> </tr> <tr> <td>01 - One node positive</td> <td>98 - No nodes examined</td> </tr> <tr> <td>...</td> <td>99 - Unknown if any nodes +/-</td> </tr> <tr> <td>98 - 98 + nodes positive</td> <td></td> </tr> </table> <p><b>TUMOR SIZE (cm):</b> <span style="float: right;">0 2 2</span> eg. 000 - No mass, 002 - 0.2 cm, 055 - 5.5 cm, 999 - Unknown</p> <p><b>RESIDUAL TUMOR:</b> <span style="float: right;">0</span></p> <table style="width: 100%; border: none;"> <tr> <td>0 - None</td> <td>2 - Macroscopic</td> <td>9 - Unknown</td> </tr> <tr> <td>1 - Microscopic</td> <td>8 - No resection, NA</td> <td></td> </tr> </table> <p><b>DISTANT METS:</b> <span style="float: right;">1 1 1 1</span></p> <table style="width: 100%; border: none;"> <tr> <td>0 - Bone Mar.</td> <td>4 - Liver</td> <td>8 - Lymph node (distant)</td> <td>1</td> </tr> <tr> <td>1 - Peritoneum</td> <td>5 - Bone</td> <td>9 - Unknown/Other</td> <td>1</td> </tr> <tr> <td>2 - Lung</td> <td>6 - CNS</td> <td></td> <td>1</td> </tr> <tr> <td>3 - Pleura</td> <td>7 - Skin</td> <td></td> <td>1</td> </tr> </table> <p><b>GENERAL SUMMARY STAGE:</b> <span style="float: right;">3</span></p> <table style="width: 100%; border: none;"> <tr> <td>0 - In situ</td> <td>4 - Regional, both 2 &amp; 3</td> </tr> <tr> <td>1 - Localized</td> <td>5 - Regional, NOS</td> </tr> <tr> <td>2 - Regional, direct extension</td> <td>7 - Distant</td> </tr> <tr> <td>3 - Regional, nodes</td> <td>9 - Unknown/unstageable</td> </tr> </table> <p><b>AJCC STAGE:</b></p> <p>CLINICAL T [2] N [1] M [0] STAGE GROUP [2 B] **</p> <p>PATHOLOGICAL T [2] N [1 B] M [0] STAGE GROUP [2 B] **</p> <p>OTHER *** [ ] T [ ] N [ ] M [ ] STAGE GROUP [ ] **</p> <p>*TNM Codes - (use alpha codes as appropriate; eg. T2A 2A, T2 2, N1B-1B, M0-0, IS-In situ, X-Unknown)</p> <p>**AJCC Stage Group - use alpha codes as appropriate; eg. 3A- Stage IIIA, 1- Stage I</p> <table style="width: 100%; border: none;"> <tr> <td>0 - In situ</td> <td>2 - Stage II</td> <td>4 - Stage IV</td> </tr> <tr> <td>1 - Stage I</td> <td>3 - Stage III</td> <td>9 - Unknown</td> </tr> </table> <p>***Other Basis: (S-Surgical), A-Autopsy, R-Retreatment</p>	1 - Well differentiated (I)	5 - T-cell	2 - Mod well differentiated (II)	6 - B-cell	3 - Poorly differentiated (III)	7 - Null cell	4 - Undifferentiated (IV)	9 - Not stated, unknown	0 - Not paired organ	3 - Rt or lt unspecified	1 - Right	4 - Both, simultaneous	2 - Left	9 - Unknown laterality	1 - Positive histology	6 - Direct visualization	2 - Cytology	7 - Radiography	4 - Pos. micro, confirm, NOS	8 - Clinical	5 - Laboratory test/marker	9 - Unknown	00 - No nodes examined	97 - 97 + nodes examined	01 - One node examined	98 - Nodes examined, number unknown	...	99 - Unknown if nodes examined	00 - No nodes positive	97 - Positive nodes, number unknown	01 - One node positive	98 - No nodes examined	...	99 - Unknown if any nodes +/-	98 - 98 + nodes positive		0 - None	2 - Macroscopic	9 - Unknown	1 - Microscopic	8 - No resection, NA		0 - Bone Mar.	4 - Liver	8 - Lymph node (distant)	1	1 - Peritoneum	5 - Bone	9 - Unknown/Other	1	2 - Lung	6 - CNS		1	3 - Pleura	7 - Skin		1	0 - In situ	4 - Regional, both 2 & 3	1 - Localized	5 - Regional, NOS	2 - Regional, direct extension	7 - Distant	3 - Regional, nodes	9 - Unknown/unstageable	0 - In situ	2 - Stage II	4 - Stage IV	1 - Stage I	3 - Stage III	9 - Unknown
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<p><b>PF 13</b>                      <b>TCAN - CANCER IDENTIFICATION</b></p> <p>DATE OF INITIAL DIAGNOSIS: (mm/dd/yyyy) 0 1 / 2 5 / 1 9 8 7</p> <p>CLASS OF CASE: <span style="float: right;">1</span></p> <table style="width: 100%; border: none;"> <tr> <td>0 - Dx here, rx elsewhere</td> <td>4 - Rx here prior</td> </tr> <tr> <td>1 - Dx &amp; rx here</td> <td>5 - Dx at autopsy</td> </tr> <tr> <td>2 - Rx here</td> <td>9 - Unknown</td> </tr> <tr> <td>3 - Rx elsewhere</td> <td></td> </tr> </table> <p>PRIMARY SITE - TEXT: Breast, Right UOQ</p> <p>CODE: 1 7 4 4</p> <p>HISTOLOGY - TEXT: Duct Cell Carcinoma, gr 3</p> <p>CODE: 8 5 0 0 / 3</p>	0 - Dx here, rx elsewhere	4 - Rx here prior	1 - Dx & rx here	5 - Dx at autopsy	2 - Rx here	9 - Unknown	3 - Rx elsewhere																																																																		
0 - Dx here, rx elsewhere	4 - Rx here prior																																																																								
1 - Dx & rx here	5 - Dx at autopsy																																																																								
2 - Rx here	9 - Unknown																																																																								
3 - Rx elsewhere																																																																									

FIGURE 1-C

<p><b>PF 14 TRX1 - 1ST COURSE TREATMENT (SURGERY, RADIATION)</b></p> <p><b>SURGERY</b></p> <p>REASON : <span style="float: right;">  0  </span></p> <p><input checked="" type="radio"/> Can directed surg performed <span style="margin-left: 100px;">6 - Reason unknown, no surg performed</span></p> <p>1 - Not recommended <span style="margin-left: 100px;">7 - Patient/guardian refused</span></p> <p>2 - Contraindicated, other <span style="margin-left: 100px;">8 - Recommended, unk if done</span></p> <p style="margin-left: 100px;">9 - unknown</p> <p>SUMMARY : (Entire 1st course) <span style="float: right;">  5   0  </span></p> <p>AT THIS HOSPITAL : <span style="float: right;">  5   0  </span></p> <p>• Refer to Appendix A in CanSur User Manual for site-specific codes.</p> <p>STARTED : (mm/dd/yyyy) <span style="float: right;">  0   1   /   2   5   /   1   9   8   7  </span></p> <p>TEXT : <u>Rt Mod Rad Mastectomy w/ Rt Axillary Dissection</u></p> <hr/> <p><b>RADIATION</b></p> <p>SUMMARY :</p> <p>AT THIS HOSPITAL <span style="float: right;">  1  </span></p> <p>0 - No Radiation therapy <span style="margin-left: 100px;">5 - Radiation therapy, NOS</span></p> <p><input checked="" type="radio"/> Re-irradiation <span style="margin-left: 100px;">7 - Patient/guardian refused</span></p> <p>2 - Radioactive implants <span style="margin-left: 100px;">8 - Recommended, unk if done</span></p> <p>3 - Radioisotopes <span style="margin-left: 100px;">9 - Unknown</span></p> <p>4 - Comb 1 + 2 or 3</p> <p>STARTED : (mm/dd/yyyy) <span style="float: right;">  0   8   /   2   9   /   1   9   8   7  </span></p> <p>TO BRAIN &amp; CNS : (Lung &amp; leukemia cases only) <span style="float: right;">  9  </span></p> <p>0 - None to CNS <span style="margin-left: 100px;">8 - Recommended, unk if done</span></p> <p>1 - Radiation therapy <span style="margin-left: 100px;"><input checked="" type="radio"/> Unknown/not applicable</span></p> <p>7 - Patient/guardian refused</p> <p>RADIATION/SURGERY SEQ: <span style="float: right;">  3  </span></p> <p>0 - Not applicable <span style="margin-left: 100px;">5 - Intraoperative radiation</span></p> <p>2 - Radiation before surgery <span style="margin-left: 100px;">6 - Intraoperative plus 2, 3 or 4</span></p> <p><input checked="" type="radio"/> Radiation after surgery <span style="margin-left: 100px;">9 - Sequence unknown</span></p> <p>4 - Before &amp; after surgery</p> <p>TEXT : <u>Chest Wall 6000</u></p>	<p><b>PF 16 TRX3 - 1st COURSE TREATMENT (CHEMO. HORMONES, BRM, OTHER)</b></p> <p><b>CHEMOTHERAPY</b></p> <p>SUMMARY : <span style="float: right;">  3  </span></p> <p>AT THIS HOSPITAL : <span style="float: right;">  3  </span></p> <p>0 - No chemotherapy <span style="margin-left: 100px;">7 - Patient/guardian refused</span></p> <p>1 - Chemotherapy, NOS <span style="margin-left: 100px;">8 - Recommended, unk if done</span></p> <p>2 - Chemotherapy, single agent <span style="margin-left: 100px;">9 - Unknown</span></p> <p><input checked="" type="radio"/> Chemotherapy, multi-agent combination</p> <p>STARTED : (mm/dd/yyyy) <span style="float: right;">  0   2   /   1   3   /   1   9   8   7  </span></p> <p>TEXT : <u>5-FU, Adria, Ctx</u></p> <hr/> <p><b>HORMONE/STEROIDS</b></p> <p>SUMMARY : <span style="float: right;">  1  </span></p> <p>AT THIS HOSPITAL : <span style="float: right;">  1  </span></p> <p>0 - No hormonal therapy <span style="margin-left: 100px;">7 - Patient/guardian refused</span></p> <p><input checked="" type="radio"/> Hormonal therapy <span style="margin-left: 100px;">8 - Recommended, unk if done</span></p> <p>2 - Endocrine surg/radiation <span style="margin-left: 100px;">9 - Unknown</span></p> <p>3 - Hormones + endcr surg/rad</p> <p>STARTED : (mm/dd/yyyy) <span style="float: right;">  0   2   /   0   9   /   1   9   8   7  </span></p> <p>TEXT : <u>Tamoxifen</u></p> <hr/> <p><b>BIO-RESPONSE MODIFIER (BRM)</b></p> <p>SUMMARY : <span style="float: right;">  0  </span></p> <p>AT THIS HOSPITAL : <span style="float: right;">  0  </span></p> <p><input checked="" type="radio"/> No BRM <span style="margin-left: 100px;">7 - Patient/guardian refused</span></p> <p>1 - BRM <span style="margin-left: 100px;">8 - Recommended, unk if done</span></p> <p>2 - Allo BMT <span style="margin-left: 100px;">9 - Unknown</span></p> <p>3 - Auto BMT</p> <p>STARTED : (mm/dd/yyyy) <span style="float: right;">      /       /          </span></p> <p>TEXT : _____</p> <hr/> <p><b>OTHER RX</b></p> <p>SUMMARY : <span style="float: right;">  0  </span></p> <p>AT THIS HOSPITAL : <span style="float: right;">  0  </span></p> <p><input checked="" type="radio"/> No other ca directed rx <span style="margin-left: 100px;">6 - Unproven therapy</span></p> <p>1 - Other ca-directed rx <span style="margin-left: 100px;">7 - Patient/guardian refused</span></p> <p>2 - Experimental ca rx <span style="margin-left: 100px;">8 - Recommended, unk if done</span></p> <p>3 - Double-blind study <span style="margin-left: 100px;">9 - Unknown</span></p> <p>STARTED : (mm/dd/yyyy) <span style="float: right;">      /       /          </span></p> <p>TEXT : _____</p>																								
<p><b>PF 18 TFU2 - SUB. THERAPY</b></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;"></th> <th style="width:15%;">Started mm/dd/yyyy</th> <th style="width:10%;">Course</th> <th style="width:10%;">Type</th> <th style="width:10%;">Code</th> <th style="width:10%;">Desc.</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>      /       /          </td> <td>   </td> <td>   </td> <td>   </td> <td>_____</td> </tr> <tr> <td>2.</td> <td>      /       /          </td> <td>   </td> <td>   </td> <td>   </td> <td>_____</td> </tr> <tr> <td>3.</td> <td>      /       /          </td> <td>   </td> <td>   </td> <td>   </td> <td>_____</td> </tr> </tbody> </table>		Started mm/dd/yyyy	Course	Type	Code	Desc.	1.	/       /				_____	2.	/       /				_____	3.	/       /				_____	
	Started mm/dd/yyyy	Course	Type	Code	Desc.																				
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2.	/       /				_____																				
3.	/       /				_____																				





The Tumor Registry database now includes more than 24,000 cases diagnosed from June 1975 through December 31, 1992. Approximately 1,800 new cases are being added annually.

There are six (6) certified tumor registrars that support the database in case ascertainment, abstracting, follow up and statistical analyzes. Priority has been given to reducing the abstracting backlog, obtaining current follow up and editing the stored data as studies are processed.

The data maintained by the Registry are available for use by the medical staff for special studies, audits, and research. In 1992, the Registry participated in 66 special studies utilizing data from the computerized file. The use of Registry data has steadily increased during the past year and its continued use is encouraged. Please refer to Appendix A for a listing of Special Studies requested in 1992.

### Tumor Committee

The multidisciplinary Tumor Committee, which meets bimonthly, is the policy-making body of the Cancer Program at KFSH&RC (see Appendix B for membership listing). During 1992, the Committee provided professional guidance to the Tumor Registry, expanded the membership of the Committee, recommended additional staff for the Tumor Registry and revised the Reportable List.

#### A. Tumor Committee Membership

In order for the Tumor Committee composition to be more multidisciplinary, representatives from the Department of Surgery representing General Surgery and the Department of Oncology, Section of Medical Oncology, were appointed by the Chief of the Medical Staff.

#### B. Tumor Registry Staffing

A staffing assessment of the Tumor Registry was performed. Based on the analysis, it was determined that seven (7) tumor registrars are required to maintain the currency and integrity of the registry data. The Chairman of the Tumor Committee reported these findings to the Chairman of the Department of Oncology and the Executive Director of Medical Affairs with the request that seven (7) Tumor Registry positions be approved.

#### C. Standards in Reporting Tissue Diagnosis on Colorectal Carcinoma

Classification standards in reporting tissue diagnosis on colorectal malignancies were adopted by the Department of Pathology and Laboratory Medicine at the request of the Tumor Committee.

#### D. Tumor Registry Reportable List

After soliciting input from the medical staff and department chairmen, the Tumor Committee revised the List of *Reportable Conditions* that are to be collected by the Tumor Registry to include only those with a histology that indicated a premalignant condition and all brain tumors whether benign or premalignant. These *Reportable Conditions* are in addition to those cases with a definite malignant diagnosis.

### **Tumor Board**

This educational conference is held as frequently as once weekly for the benefit of the attending staff, house staff, allied health professionals and visiting attending staff from other hospitals. Cases of various types of malignant disease are selected for presentation on the basis of complexity, unusual manifestations of the disease, or interest. Each presentation includes an outline of the medical history, physical findings, clinical course, radiographic studies, and pathological interpretations. Following each presentation, there is an informal discussion of the case and a review of pertinent medical literature. Those attending are encouraged to share personal experience in the management of similar cases.

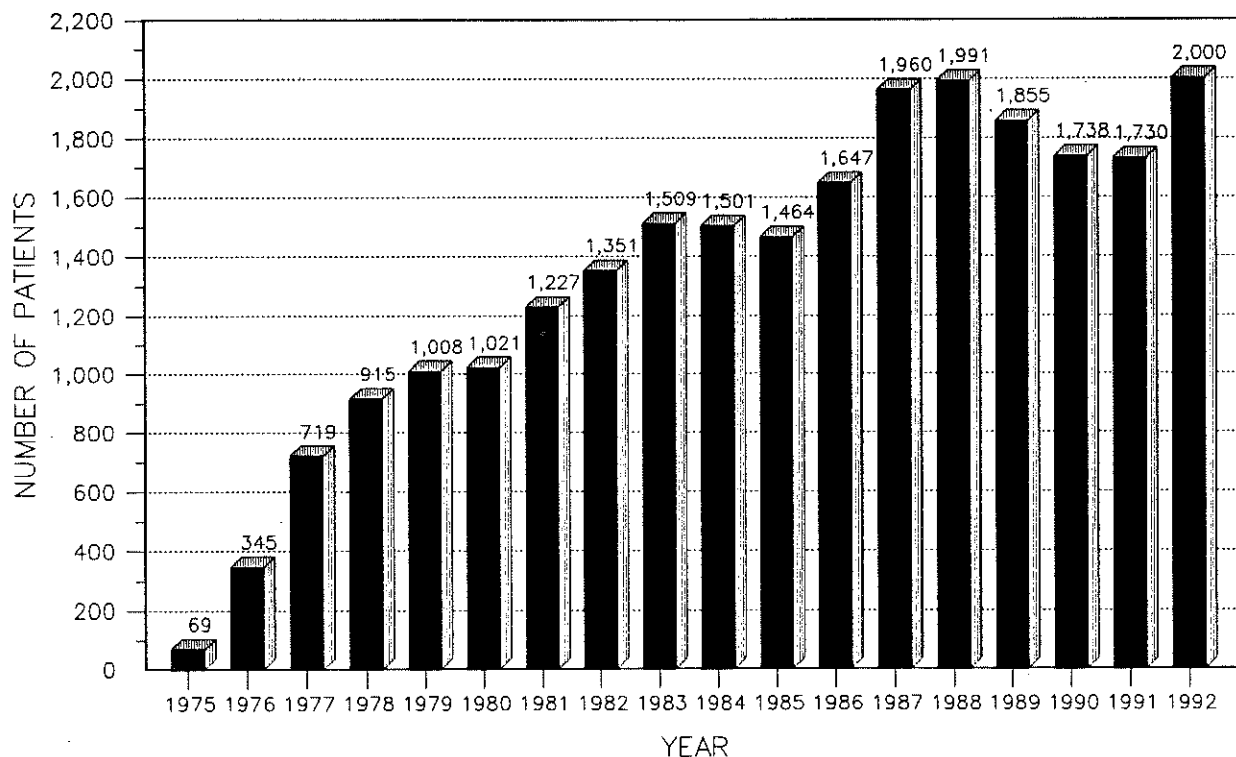
### **Oncology Grand Rounds**

This didactic conference is held weekly and is attended by the Medical staff and allied health professionals. Speakers are drawn from the KFSH&RC Medical and Research staff as well as from visiting guests. Please refer to Appendix C for listing of the topics presented at the Oncology Grand Rounds in 1992.

## II. THE KFSH&RC CANCER PATIENT POPULATION

A total of 2,000 cases (1,909 patients) were accessioned in 1992, with 1,057 males and 943 females or a male/female ratio of 1.1:1. This represents a 15.6% increase from 1991 which could be attributed to the opening of some floors in the KFSH&RC East Wing.

FIGURE 2  
DISTRIBUTION OF ALL CASES ACCESSIONED BY YEAR  
1975 - 1992 (TOTAL CASES = 24,050)



From the opening of the hospital (mid 1975) until December 1992, 24,050 cancer cases were registered (13,379 males and 10,671 females) with a male/female ratio of 1.2:1. The total population of Saudi Arabia as of October 1992 showed a male/female ratio of 1.3:1. There were 3,011 (12.5%) pediatric cases (0 to 14 years of age) and 21,039 (87.5%) adults (15 years old and above). Only a slight difference in the proportion was noted in 1992, 11.6% for pediatrics and 88.4% for adults.

TABLE 1  
ALL CASES SEEN AT KFSH&RC (MALE/FEMALE & CHILDREN/ADULTS) BY 5-YEAR PERIOD  
1975 - 1992

	1975-1976*		1977-1981		1982-1986		1987-1991		1992		TOTAL	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
MALE	280		2,969		4,123		4,950		1,057		13,379	
FEMALE	134		1,921		3,349		4,324		943		10,671	
TOTAL	414		4,890		7,472		9,274		2,000		24,050	
M/F RATIO	2.1:1		1.5:1		1.2:1		1.1:1		1.1:1		1.2:1	
CHILDREN**	55	13.3	585	12.0	985	13.2	1,154	12.4	232	11.6	3,011	12.5
ADULTS	359	86.7	4,305	88.0	6,487	86.8	8,120	87.6	1,768	88.4	21,039	87.5
TOTAL	414	100	4,890	100	7,472	100	9,274	100	2,000	100	24,050	100

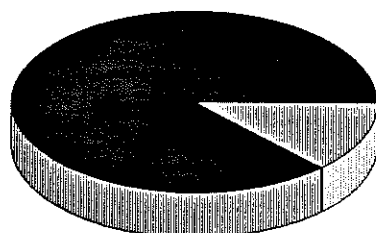
\* First two years of KFSH operation.

\*\* Children = 0 to 14 years of age; Adults = 15 years and above.

Saudi nationals totalled 1,782 (89.1%) in 1992 and the non-Saudi, 218 (10.9%). There was a decline in the percentage of non-Saudis from the total (12.7%) during the period 1975 to 1992 with the Yemenis decreasing remarkably from 5.1% to 1.6%.

FIGURE 3  
DISTRIBUTION OF ALL CASES BY NATIONALITY  
1975 - 1992 (TOTAL CASES = 24,050)

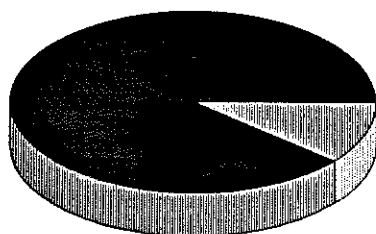
SAUDI 20,990 (87.3%)



NON-SAUDI 3,060 (12.7%)  
YEMENI 1,230 (5.1%)  
LEB,SYR,PAL,JORD 601 (2.5%)  
EGYPTIAN 385 (1.6%)  
OTHER ARABS 108 (0.4%)  
AFRICAN 225 (0.9%)  
ALL OTHERS 511 (2.2%)

1992 (TOTAL CASES = 2,000)

SAUDI 1,782 (89.1%)

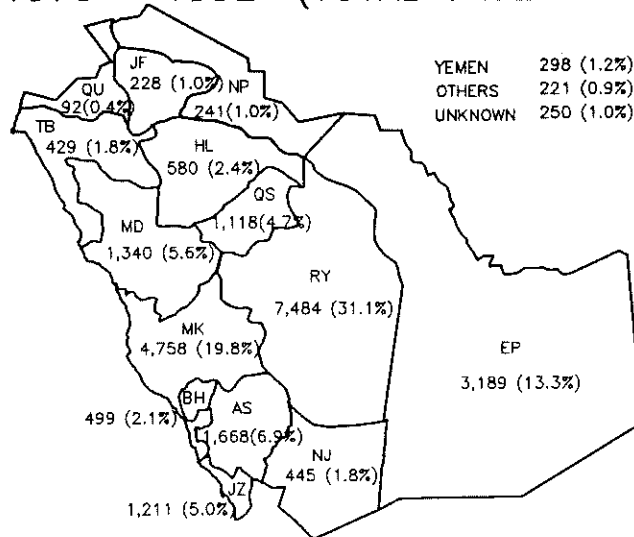


NON-SAUDI 218 (10.9%)  
YEMENI 31 (1.6%)  
LEB,SYR,PAL,JORD 52 (2.6%)  
EGYPTIAN 39 (2.0%)  
OTHER ARABS 23 (1.2%)  
AFRICAN 27 (1.4%)  
ALL OTHERS 46 (2.3%)

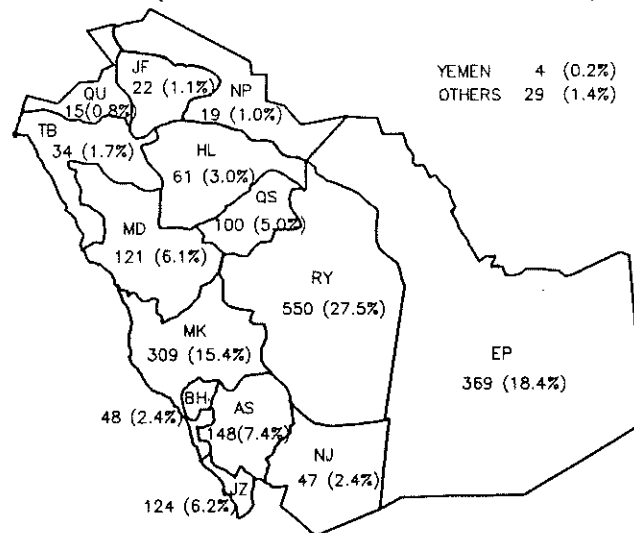
Geographically, the referral pattern is mainly from the Riyadh Region with 27.5% of all cases, followed by the Eastern Province and the Makkah Region with 18.4% and 15.4%, respectively, in 1992. The same regions had the most number of cases during the 18 years in review, i.e., 31.1% from Riyadh, 19.8% from Makkah and 13.3% from the Eastern Province.

FIGURE 4  
DISTRIBUTION OF ALL CASES BY GEOGRAPHIC REGION  
(Based on Given Address at the Time of Diagnosis)

1975 - 1992 (TOTAL CASES = 24,050)



1992 (TOTAL CASES = 2,000)



- |                       |                        |                  |
|-----------------------|------------------------|------------------|
| AS - ASIR             | JZ - JIZAN             | QS - AL QASSIM   |
| BH - AL BAHA          | MD - AL MADINAH        | QU - AL QURAYYAT |
| EP - EASTERN PROVINCE | MK - MAKKAH            | RY - RIYADH      |
| HL - HAIL             | NJ - NAJRAN            | TB - TABUK       |
| JF - AL JAWF          | NP - NORTHERN PROVINCE |                  |

## TRENDS IN RELATIVE FREQUENCY OF CANCER AT KFSH&RC

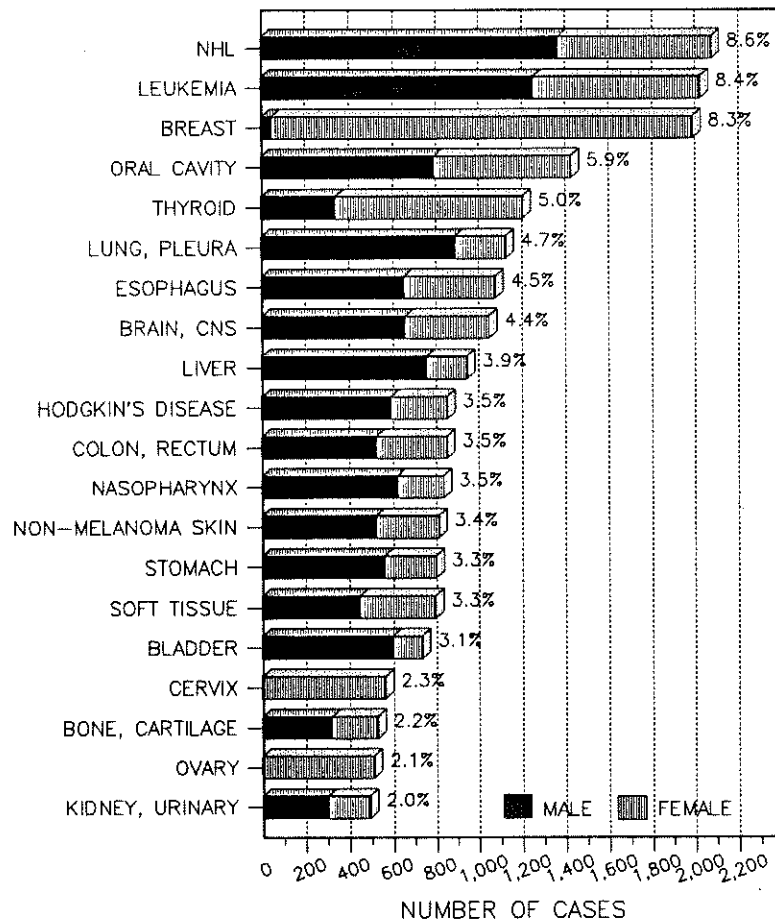
The crude relative frequency is the proportion of a given cancer in relation to all cases in a clinical or pathological series. Although such frequencies are subject to many biases, historically many elevated frequencies have been confirmed when complete cancer registration was introduced.

Biases that may have an affect on the relative frequencies of cancer cases at KFSH&RC include:

- possible nonusage of medical services by some of the population so that the hospital population may not reflect the disease state of the community
- resistance to examination by part of the female population
- absence of postmortem examinations/death certificates
- selective referral of certain malignancies because of a speciality service provided
- eligibility criteria for admission to KFSH&RC
- age distribution of the population

Non-Hodgkin's Lymphoma led the list of total cancer cases seen from 1975 to 1992 with 8.6%, followed by Leukemia (8.4%), Breast (8.3%), Oral Cavity (5.9%) and Thyroid (5.0%).

FIGURE 5  
DISTRIBUTION OF 20 MOST COMMON MALIGNANCIES  
1975 - 1992 ( TOTAL CASES = 24,050)



Cancer among children under the age of 15 accounted for 12.5% of all cases from 1975 to 1992. The five most common childhood malignancies were Leukemia (25.8%), Lymphoma (21.7%), Brain/CNS (15.5%), Soft Tissue (8.6%) and Eye (7.5%).

FIGURE 6  
DISTRIBUTION OF 10 MOST COMMON CHILDHOOD MALIGNANCIES  
1975 - 1992 (TOTAL CASES = 3,011)

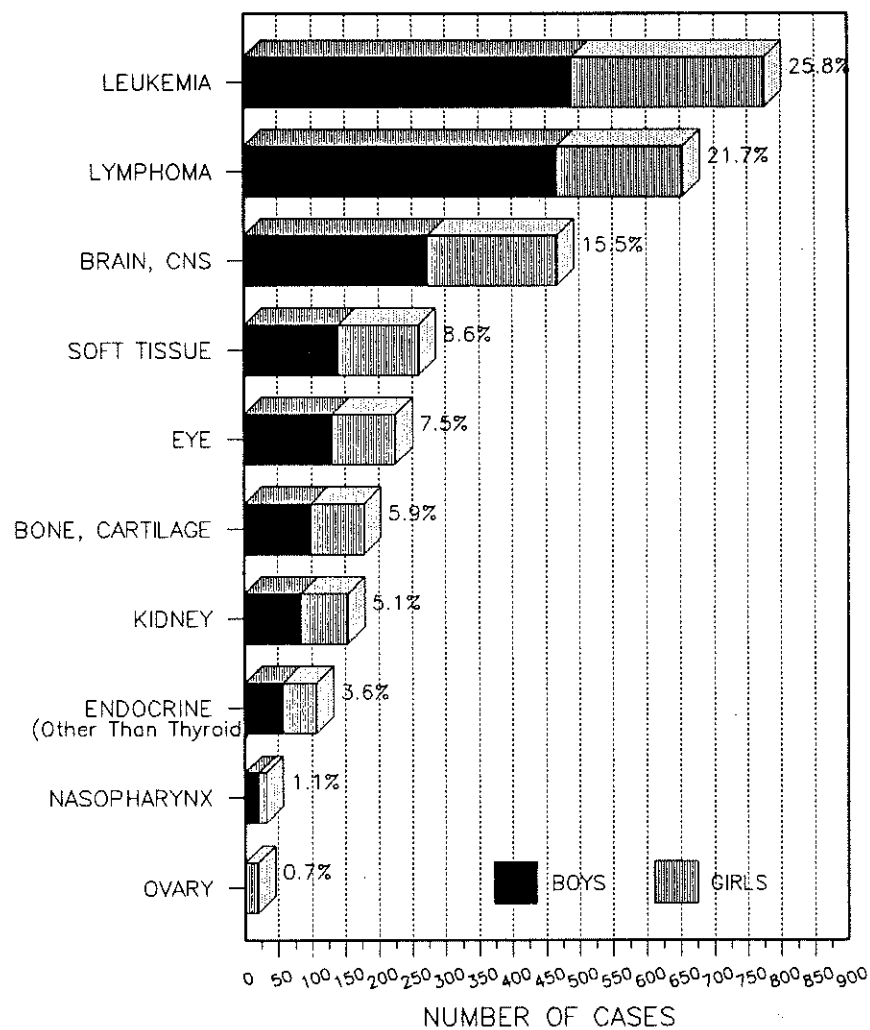


Table 2 shows the number of all malignant cases seen at KFSH&RC from 1975 to 1992 by site and year and Table 3, the 5-year summaries.



TABLE 2  
ALL CASES SEEN AT KFSH&RC BY SITE\* AND YEAR  
1975 - 1992

SITE	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	TOTAL
Oral Cavity	1	15	36	80	69	69	59	81	99	84	103	74	99	131	103	103	106	115	1,427
Nasopharynx	3	11	39	35	38	34	48	45	64	45	45	48	79	64	62	61	61	52	834
Esophagus	1	15	51	62	69	66	58	62	75	76	56	68	77	66	67	73	66	68	1,076
Stomach	2	15	32	36	48	38	49	50	66	58	48	64	60	46	52	51	36	47	798
Colon, Rectum	1	13	22	24	30	37	47	38	41	59	44	51	69	81	63	64	80	86	850
Liver	7	15	33	44	49	33	43	55	53	65	56	84	75	71	67	54	66	74	944
Pancreas	1	5	7	10	11	16	21	21	13	20	17	27	19	16	27	12	12	26	282
Other G.I.	2	6	10	11	11	15	10	10	11	14	17	22	28	22	21	20	13	28	271
Larynx	1	5	11	11	13	17	23	14	23	19	26	16	24	33	21	26	34	27	344
Lung, Pleura	3	11	24	34	45	39	50	61	78	77	90	86	84	109	90	76	85	82	1,124
Multiple Myeloma	0	5	6	11	9	11	7	13	9	12	14	12	24	21	29	13	22	23	241
Lymphoid Leukemia	4	14	16	38	32	39	52	69	65	48	63	84	92	77	75	55	74	72	969
Myeloid Leukemia	3	13	22	44	50	38	63	50	42	72	54	72	84	71	72	70	68	60	948
Other Leukemias	0	1	3	5	9	2	7	5	9	7	5	3	7	8	9	7	13	6	106
Reticuloendothelium	0	1	0	1	1	1	1	1	1	1	1	1	2	1	1	1	0	0	20
Bone, Cartilage	1	6	12	25	17	22	22	42	34	42	25	31	36	44	45	36	37	49	526
Soft Tissue	1	13	30	34	37	26	40	45	34	43	47	56	59	56	63	70	81	61	796
Skin Melanoma	0	4	4	8	8	6	8	4	11	12	9	8	12	12	6	5	9	13	139
Non-Melanoma Skin Ca	2	15	25	30	46	37	47	54	54	58	67	70	48	48	56	48	49	58	812
Breast	3	23	53	47	58	61	101	108	110	151	131	125	173	191	136	166	168	183	1,988
Uterus, Genital	0	2	10	10	15	11	16	16	35	21	19	28	37	37	33	34	30	41	395
Cervix	0	10	18	18	23	18	22	25	34	31	41	55	52	50	33	44	35	52	561
Ovary	2	6	10	10	17	20	21	35	32	26	23	35	43	48	53	46	37	44	508
Prostate	0	7	5	4	5	11	11	18	26	17	21	16	22	26	27	23	16	36	291
Testis, Genital	0	4	10	8	13	10	15	13	11	15	13	14	17	19	13	19	15	21	230
Bladder	4	7	12	23	29	37	36	23	41	35	45	52	78	75	72	58	44	63	734
Kidney, Urinary	0	9	18	19	18	16	19	31	24	22	25	44	33	57	33	34	35	53	490
Eye	0	6	11	18	11	22	27	34	25	16	30	22	33	40	25	28	5	14	367
Brain, CNS	3	24	28	39	27	31	30	78	49	60	50	73	90	91	99	81	84	110	1,047
Thyroid	2	8	17	29	32	44	57	50	63	71	63	82	119	112	110	92	111	141	1,203
Other Endocrine	1	1	2	2	2	9	6	8	15	9	18	9	12	13	2	6	8	14	137
MHL - Lymph Nodes	4	19	63	72	97	102	119	104	146	123	85	84	97	100	92	92	70	89	1,558
MHL - Extra-nodal	0	3	6	1	5	9	9	10	23	12	36	53	57	52	71	59	50	60	516
Hodgkin's Disease	13	19	40	41	35	42	45	43	53	50	48	45	64	57	75	56	55	71	852
Primary Unknown	3	11	23	21	19	25	29	23	29	24	21	20	33	32	45	40	40	50	488
All Other Sites	1	3	10	9	5	12	9	12	11	6	8	8	22	14	7	15	15	11	178
TOTAL	69	345	719	915	1008	1021	1227	1351	1509	1501	1464	1647	1960	1991	1855	1738	1730	2000	24,050

\* Includes Multiple Primary Neoplasms.

TABLE 3

ALL CASES SEEN AT KFSH&RC BY SITE\* AND 5-YEAR PERIOD  
1975 - 1992

SITE	1975-1976**		1977-1981		1982-1986		1987-1991		1992		TOTAL	
	No	%	No	%	No	%	No	%	No	%	No	%
Oral Cavity	16	3.9%	313	6.4%	441	5.9%	542	5.8%	115	5.8%	1,427	5.9%
Nasopharynx	14	3.4%	194	4.0%	247	3.3%	327	3.5%	52	2.6%	834	3.5%
Esophagus	16	3.9%	306	6.3%	337	4.5%	349	3.8%	68	3.4%	1,076	4.5%
Stomach	17	4.1%	203	4.2%	286	3.8%	245	2.6%	47	2.4%	798	3.3%
Colon, Rectum	14	3.4%	160	3.3%	233	3.1%	357	3.8%	86	4.3%	850	3.5%
Liver	22	5.3%	202	4.1%	313	4.2%	333	3.6%	74	3.7%	944	3.9%
Pancreas	6	1.4%	66	1.3%	98	1.3%	86	0.9%	26	1.3%	282	1.2%
Other G.I.	8	1.9%	57	1.2%	74	1.0%	104	1.1%	28	1.4%	271	1.1%
Larynx	6	1.4%	75	1.5%	98	1.3%	138	1.5%	27	1.4%	344	1.4%
Lung, Pleura	14	3.4%	192	3.9%	392	5.2%	444	4.8%	82	4.1%	1,124	4.7%
Multiple Myeloma	5	1.2%	44	0.9%	60	0.8%	109	1.2%	23	1.2%	241	1.0%
Lymphoid Leukemia	18	4.3%	177	3.6%	329	4.4%	373	4.0%	72	3.6%	969	4.0%
Myeloid Leukemia	16	3.9%	217	4.4%	290	3.9%	365	3.9%	60	3.0%	948	3.9%
Other Leukemias	1	0.2%	26	0.5%	29	0.4%	44	0.5%	6	0.3%	106	0.4%
Reticuloendothelium	1	0.2%	4	0.1%	10	0.1%	5	0.0%	0	0.0%	20	0.1%
Bone, Cartilage	7	1.7%	98	2.0%	174	2.3%	198	2.1%	49	2.5%	526	2.2%
Soft Tissue	14	3.4%	167	3.4%	225	3.0%	329	3.5%	61	3.1%	796	3.3%
Skin Melanoma	4	1.0%	34	0.7%	44	0.6%	44	0.5%	13	0.7%	139	0.6%
Non-Melanoma Skin Ca	17	4.1%	185	3.8%	303	4.1%	249	2.7%	58	2.9%	812	3.4%
Breast	26	6.3%	320	6.5%	625	8.4%	834	9.0%	183	9.2%	1,988	8.3%
Uterus, Genital	2	0.5%	62	1.3%	119	1.6%	171	1.8%	41	2.1%	395	1.6%
Cervix	10	2.4%	99	2.0%	186	2.5%	214	2.3%	52	2.6%	561	2.3%
Ovary	8	1.9%	78	1.6%	151	2.0%	227	2.4%	44	2.2%	508	2.1%
Prostate	7	1.7%	36	0.7%	98	1.3%	114	1.2%	36	1.8%	291	1.2%
Testis, Genital	4	1.0%	56	1.1%	66	0.9%	83	0.9%	21	1.1%	230	1.0%
Bladder	11	2.7%	137	2.8%	196	2.6%	327	3.5%	63	3.2%	734	3.1%
Kidney, Urinary	9	2.2%	90	1.8%	146	2.0%	192	2.1%	53	2.7%	490	2.0%
Eye	6	1.4%	89	1.8%	127	1.7%	131	1.4%	14	0.7%	367	1.5%
Brain, CNS	27	6.5%	155	3.2%	310	4.1%	445	4.8%	110	5.5%	1,047	4.4%
Thyroid	10	2.4%	179	3.7%	329	4.4%	544	5.9%	141	7.1%	1,203	5.0%
Other Endocrine	2	0.5%	21	0.4%	59	0.8%	41	0.4%	14	0.7%	137	0.6%
NHL - Lymph Nodes	23	5.6%	453	9.3%	542	7.3%	451	4.9%	89	4.5%	1,558	6.5%
NHL - Extra-nodal	3	0.7%	30	0.6%	134	1.8%	289	3.1%	60	3.0%	516	2.1%
Hodgkin's Disease	32	7.7%	203	4.2%	239	3.2%	307	3.3%	71	3.6%	852	3.5%
Primary Unknown	14	3.4%	117	2.4%	117	1.6%	190	2.0%	50	2.5%	488	2.0%
All Other Sites	4	1.0%	45	0.9%	45	0.6%	73	0.8%	11	0.6%	178	0.7%
TOTAL	414	100.0%	4,890	100.0%	7,472	100.0%	9,274	100.0%	2,000	100.0%	24,050	100.0%

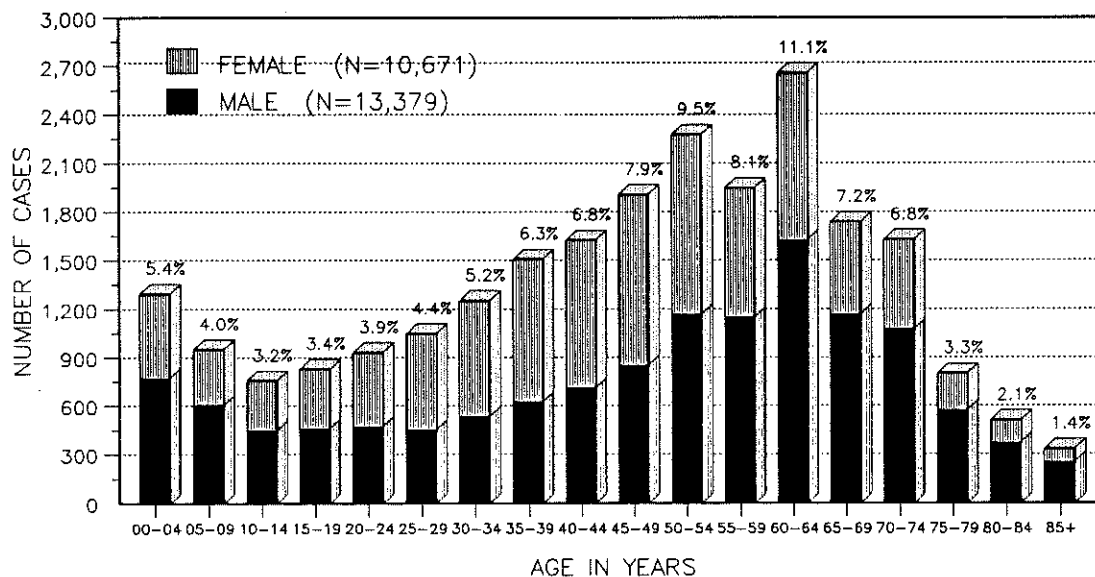
\* Includes Multiple Primary Neoplasms.

\*\* First Two Years of KFSH Operation.

The largest number of cases was noted in the 5th and 6th decades in males and in the 4th and 5th in females. In 1992, the mean age was 46.5, the median is 50.3 and the mode is 60.0. Childhood malignancies are most common among children three years of age.

FIGURE 7

DISTRIBUTION OF ALL CASES BY AGE AT DIAGNOSIS  
1975 - 1992 (TOTAL CASES = 24,050)



1992 (TOTAL CASES = 2,000)

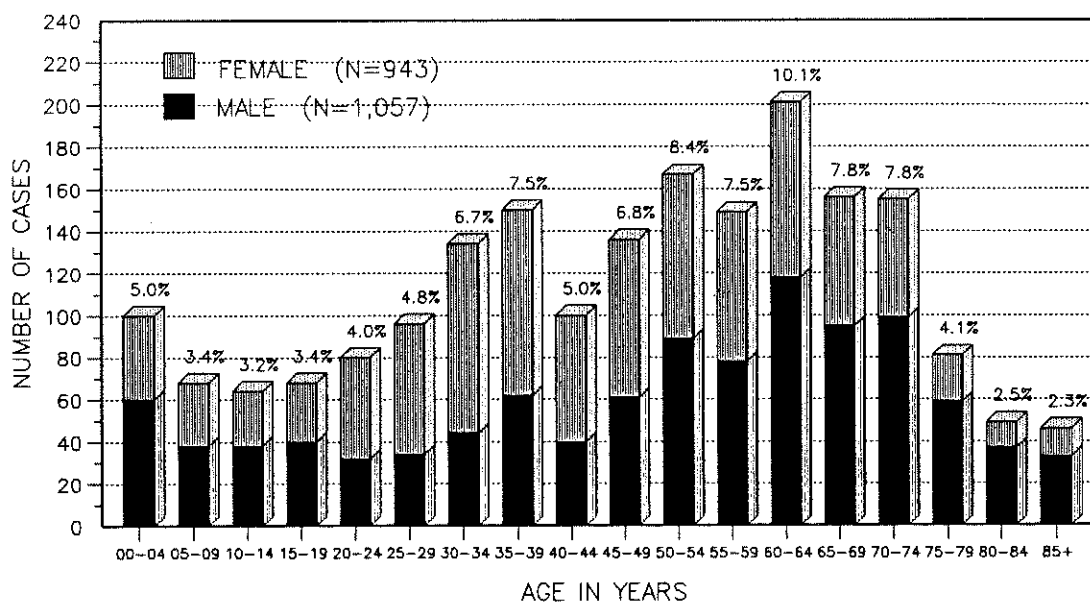
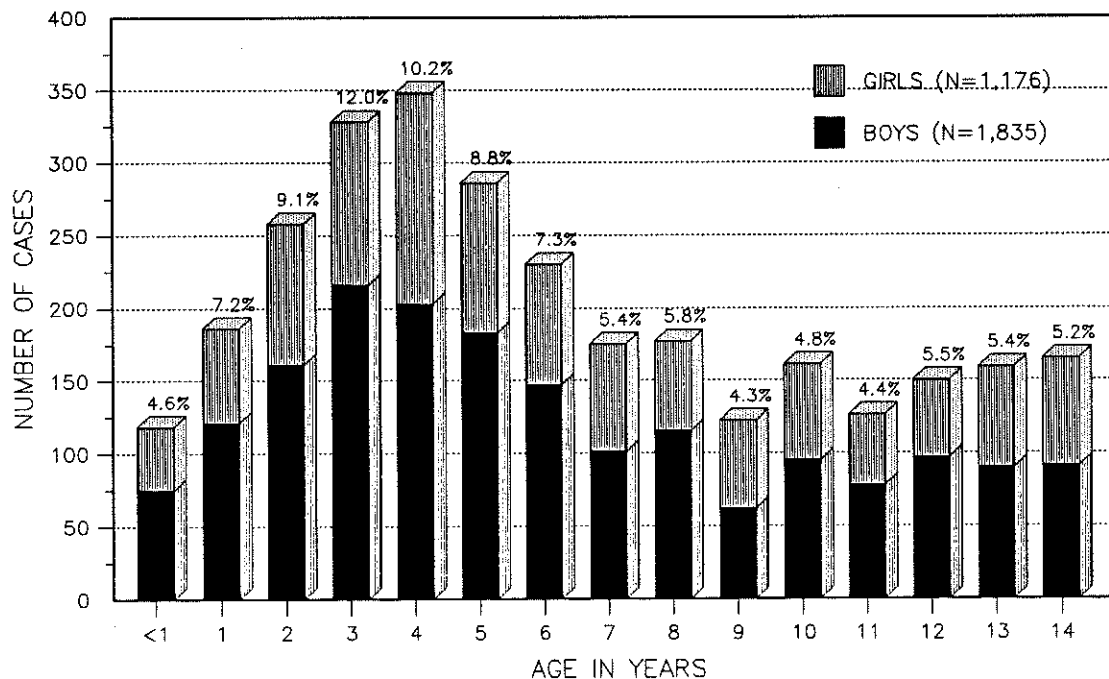


FIGURE 8  
DISTRIBUTION OF ALL PEDIATRIC CASES BY AGE AT DIAGNOSIS  
1975 - 1992 (TOTAL CASES = 3,011)



Of the 2,000 cases in 1992, 1,628 (81.4%) were **analytic** (defined as cases which were first diagnosed and/or received all or part of their first course of treatment at KFSH&RC. The remaining 372 cases (18.6%) were **non-analytic** (defined as cases diagnosed elsewhere and receiving all of their first course of treatment elsewhere). Out of the 1,628 analytic cases, pediatric cases totalled 205, with 121 boys and 84 girls.

See Table 4 for the distribution of cases by site, sex, class of case, and stage at diagnosis and Tables 5, 6 and 7 for the distributions of analytic cases by site, sex and age at diagnosis.

TABLE 4

ALL CASES SEEN AT KFSH&RC BY SITE\*, SEX, CLASS OF CASE AND SUMMARY STAGE

1992

SITE	TOTAL Number	SEX		CLASS OF CASE**	In Situ	ANALYTIC CASES			
		Male	Female			Localized	Regional	Distant	NA/Unknown
Breast	183	4	179	141	0	25	91	24	1
Non-Hodgkin's Lymphoma	149	85	64	136	0	15	53	67	1
Thyroid	141	33	108	123	0	54	51	11	7
Leukemia	138	86	52	113	0	0	0	113	0
Oral Cavity	115	68	47	107	0	31	44	27	5
Brain, CNS	110	67	43	99	0	59	33	0	7
Colon, Rectum	86	51	35	68	0	10	42	10	6
Lung, Pleura	82	64	18	69	0	10	14	45	0
Liver	74	61	13	48	0	18	5	22	3
Hodgkin's Disease	71	45	26	61	0	12	22	27	0
Esophagus	68	40	28	60	0	8	21	13	14
Bladder	63	53	10	48	0	16	22	9	1
Soft Tissue	61	40	21	45	0	11	18	14	2
Non-Melanoma Skin Ca	58	37	21	44	1	22	8	12	1
Kidney, Urinary	53	34	19	45	0	18	15	10	2
Nasopharynx	52	43	9	46	0	0	27	18	1
Cervix	52	0	52	50	1	7	34	7	1
Primary Unknown	50	26	24	37	0	0	0	0	37
Bone, Cartilage	49	25	24	44	0	4	34	6	0
Stomach	47	32	15	31	0	4	11	15	1
Ovary	44	0	44	25	0	4	3	17	4
Uterus, Genital	41	0	41	34	1	10	10	9	4
Prostate	36	36	0	19	1	3	5	8	2
Other G.I.	28	12	16	21	0	1	10	7	3
Larynx	27	26	1	22	1	13	6	3	0
Pancreas	26	17	9	20	0	0	9	10	1
Multiple Myeloma	23	18	5	17	0	0	0	17	0
Testis, Genital	21	21	0	19	0	11	3	4	1
Other Endocrine	14	12	2	12	0	3	3	6	0
Eye	14	7	7	8	0	4	4	0	0
Skin Melanoma	13	7	6	6	0	2	2	2	0
All Other Sites	11	7	4	10	0	2	3	3	2
TOTAL	2,000	1,057	943	1,628	4	381	603	536	104

\* Includes Multiple Primary Neoplasms.

\*\* Analytic Cases - cases which were first diagnosed and/or received all or part of their first course of treatment at KFSH.  
Non-Analytic Cases - cases which were diagnosed elsewhere and received all of their first course of treatment elsewhere.

TABLE 5

ANALYTIC CASES SEEN AT KFSH&RC BY SITE\* AND AGE  
1992

SITE	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	TOTAL
Oral Cavity	0	0	2	1	1	5	1	9	2	8	13	11	15	13	11	5	4	6	107
Nasopharynx	0	1	0	4	1	2	3	4	4	5	6	5	4	4	2	1	0	0	46
Esophagus	0	0	0	0	0	0	0	3	1	0	4	4	11	11	12	5	4	5	60
Stomach	0	0	0	0	0	0	0	0	0	1	2	1	4	8	3	5	2	5	31
Colon, Rectum	0	0	0	1	2	1	8	5	2	3	10	3	13	3	10	6	1	0	68
Liver	0	0	0	0	0	1	2	0	2	2	5	7	12	7	3	4	3	0	48
Pancreas	0	0	0	0	0	2	1	0	0	1	4	2	5	5	0	0	0	0	20
Other G.I.	0	0	0	0	0	2	1	2	2	2	2	2	1	3	1	2	1	0	21
Larynx	0	0	0	0	0	0	1	1	0	1	3	3	2	4	5	1	1	0	22
Lung, Pleura	0	0	0	0	0	1	2	4	4	5	13	4	14	8	10	2	2	0	69
Multiple Myeloma	0	0	0	0	0	0	1	0	2	0	1	1	3	1	5	1	0	0	17
Lymphoid Leukemia	19	11	5	5	5	2	3	1	1	0	3	1	1	3	0	0	0	0	60
Myeloid Leukemia	1	1	5	4	1	5	4	5	7	4	4	0	3	1	1	1	1	1	49
Other Leukemias	2	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Bone, Cartilage	2	2	13	11	7	4	3	0	0	0	0	0	0	1	0	1	0	0	44
Soft Tissue	12	3	4	1	2	1	4	2	3	3	2	2	3	0	2	1	0	0	45
Skin Melanoma	0	0	0	0	0	0	1	0	0	0	0	2	0	1	1	1	0	0	6
Non-Melanoma Skin Ca	0	1	1	0	2	2	1	4	4	2	5	3	4	4	4	2	2	3	44
Breast	0	0	0	0	2	8	15	20	17	23	17	14	11	5	6	2	1	0	141
Uterus, Genital	0	0	1	1	1	4	0	1	1	5	3	4	2	3	5	2	1	0	34
Cervix	0	0	0	0	0	0	4	8	2	5	5	5	11	2	3	3	2	0	50
Ovary	0	1	0	3	1	4	2	1	1	0	3	0	4	4	1	0	0	0	25
Prostate	0	0	0	0	0	0	0	0	0	1	2	1	2	4	3	2	4	0	19
Testis, Genital	0	0	0	1	3	4	4	3	0	1	2	0	0	0	0	1	0	0	19
Bladder	0	0	0	0	0	0	4	2	2	4	2	4	5	5	10	4	5	1	48
Kidney, Urinary	10	3	0	0	1	3	2	2	2	2	1	7	4	0	4	2	1	1	45
Eye	6	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	8
Brain, CNS	13	17	12	10	6	2	3	4	1	6	9	6	5	3	2	0	0	0	99
Thyroid	0	0	1	2	14	10	22	16	5	14	8	12	5	10	2	2	0	0	123
Other Endocrine	5	1	2	0	0	0	1	0	1	0	0	0	0	2	0	0	0	0	12
NHL - Lymph Nodes	11	6	3	3	3	6	5	4	0	4	4	9	5	5	7	3	1	2	81
NHL - Extra-nodal	1	4	3	2	3	4	5	4	2	3	5	4	2	2	5	3	1	2	55
Hodgkin's Disease	4	8	7	11	11	6	2	2	1	3	0	2	2	1	1	0	0	0	61
Primary Unknown	1	0	0	1	1	1	1	1	0	2	6	1	7	3	6	3	1	2	37
ALL Other Sites	0	0	0	0	0	0	0	2	0	1	1	1	2	1	0	0	1	1	10
TOTAL	87	59	59	63	67	80	106	111	111	111	145	121	162	127	125	65	39	31	1,628

\* Includes Multiple Primary Neoplasms.

TABLE 6

ANALYTIC MALE CASES SEEN AT KFSH&RC BY SITE\* AND AGE

1992

SITE	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	TOTAL
Oral Cavity	0	0	2	0	0	0	0	7	0	5	10	6	5	11	7	4	2	3	62
Nasopharynx	0	1	0	2	1	2	1	3	3	4	6	4	4	4	2	1	0	0	38
Esophagus	0	0	0	0	0	0	0	1	1	0	2	0	6	6	8	2	4	4	34
Stomach	0	0	0	0	0	0	0	0	0	0	1	1	3	5	2	5	2	3	22
Colon, Rectum	0	0	0	1	1	1	3	3	1	2	3	2	11	1	7	4	1	0	41
Liver	0	0	0	0	0	0	1	0	0	1	5	4	12	6	3	4	3	0	39
Pancreas	0	0	0	0	0	2	0	0	0	1	2	1	3	3	0	0	0	0	12
Other G.I.	0	0	0	0	0	1	1	1	1	1	1	0	0	1	0	0	0	0	7
Larynx	0	0	0	0	0	0	1	1	0	1	3	3	2	4	4	1	1	0	21
Lung, Pleura	0	0	0	0	0	0	2	3	3	4	10	3	13	5	10	2	2	0	57
Multiple Myeloma	0	0	0	0	0	0	1	0	1	0	1	1	2	1	4	1	0	1	14
Lymphoid Leukemia	11	6	1	5	3	1	1	1	1	0	3	0	2	1	0	0	0	0	36
Myeloid Leukemia	1	0	5	0	1	3	2	3	4	3	3	0	2	1	0	1	0	0	29
Other Leukemias	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Bone, Cartilage	0	0	8	7	5	2	1	0	0	0	0	0	0	0	0	1	0	0	24
Soft Tissue	8	1	3	1	2	0	2	1	3	2	1	2	1	0	2	1	0	0	30
Skin Melanoma	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	4
Non-Melanoma Skin Ca	0	1	1	0	2	0	1	3	2	2	1	2	2	3	3	2	2	2	29
Breast	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Uterus, Genital	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cervix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ovary	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Prostate	0	0	0	0	0	0	0	0	0	1	2	1	2	4	3	2	4	0	19
Testis, Genital	0	0	0	1	3	4	4	3	0	1	2	0	0	0	0	1	0	0	19
Bladder	0	0	0	0	0	0	4	0	1	4	2	4	5	5	7	4	5	0	41
Kidney, Urinary	5	1	0	0	1	1	2	2	1	2	1	5	3	0	3	1	1	0	29
Eye	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	4
Brain, CNS	8	10	7	7	2	2	2	3	1	2	3	6	4	2	1	0	0	0	60
Thyroid	0	0	1	1	1	1	0	4	1	4	3	5	2	2	0	2	0	0	27
Other Endocrine	5	1	1	0	0	0	1	0	1	0	0	0	0	2	0	0	0	0	11
NHL - Lymph Nodes	6	4	0	3	1	3	2	1	0	3	0	7	3	3	5	2	0	2	45
NHL - Extra-nodal	1	1	2	1	1	3	2	4	1	0	4	2	1	0	4	2	1	2	32
Hodgkin's Disease	4	6	4	5	5	5	0	2	1	2	0	1	1	1	1	0	0	0	38
Primary Unknown	0	0	0	1	0	0	0	1	0	1	5	1	3	1	4	2	1	1	21
All Other Sites	0	0	0	0	0	0	0	0	0	1	1	1	2	1	0	0	0	1	7
TOTAL	54	32	35	37	29	31	34	47	29	47	75	63	96	76	81	46	29	19	860

\* Includes Multiple Primary Neoplasms.

TABLE 7  
ANALYTIC FEMALE CASES SEEN AT KFHS&RC BY SITE\* AND AGE  
1992

SITE	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	TOTAL
Oral Cavity	0	0	0	1	1	5	1	2	2	3	3	5	10	2	4	1	2	3	45
Nasopharynx	0	0	0	2	0	0	2	1	1	1	0	1	0	0	0	0	0	0	8
Esophagus	0	0	0	0	0	0	0	2	0	0	2	4	5	5	4	3	0	1	26
Stomach	0	0	0	0	0	0	0	0	0	1	1	0	1	3	1	0	0	2	9
Colon, Rectum	0	0	0	0	1	1	5	2	1	1	7	1	2	2	3	2	0	0	27
Liver	0	0	0	0	1	1	1	0	2	1	0	3	0	1	0	0	0	0	9
Pancreas	0	0	0	0	0	0	1	0	0	0	2	1	2	2	0	0	0	0	8
Other G.I.	0	0	0	0	0	1	0	1	1	1	1	2	1	2	1	2	1	0	14
Larynx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Lung, Pleura	0	0	0	0	0	0	0	1	1	1	3	1	1	3	0	0	0	0	12
Multiple Myeloma	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	3
Lymphoid Leukemia	8	5	4	0	2	1	2	0	0	0	0	1	0	1	0	0	0	0	24
Myeloid Leukemia	0	1	0	4	0	2	2	2	3	1	1	0	1	0	1	0	1	1	20
Other Leukemias	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bone, Cartilage	2	2	5	4	2	2	2	0	0	0	0	0	2	0	0	0	0	0	20
Soft Tissue	4	2	1	0	0	1	2	1	0	1	1	0	2	0	0	0	0	0	15
Skin Melanoma	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
Non-Melanoma Skin Ca	0	0	0	0	2	8	15	20	17	23	17	14	8	1	1	0	0	1	15
Breast	0	0	1	1	1	4	0	1	1	5	3	4	2	3	5	2	1	0	137
Uterus, Genital	0	0	0	0	0	0	4	8	2	5	5	5	11	2	3	3	2	0	34
Cervix	0	0	0	0	0	0	2	1	1	0	3	0	4	4	1	0	0	0	50
Ovary	0	1	0	3	1	4	2	1	1	0	0	0	0	0	0	0	0	0	25
Prostate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Testis, Genital	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bladder	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	0	0	1	7
Kidney, Urinary	5	2	0	0	0	2	0	0	1	0	0	2	1	0	1	1	0	1	16
Eye	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4
Brain, CNS	5	7	5	3	4	0	1	1	0	4	6	0	1	1	1	0	0	0	39
Thyroid	0	0	0	1	13	9	22	12	4	10	5	7	3	8	2	0	0	0	96
Other Endocrine	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
NHL - Lymph Nodes	5	2	3	0	2	3	3	3	0	1	4	2	2	2	2	1	1	0	36
NHL - Extra-nodal	0	3	1	1	2	1	3	0	1	3	1	2	1	2	1	1	0	0	23
Hodgkin's Disease	0	2	3	6	6	1	3	0	0	1	0	1	1	0	0	0	0	0	23
Primary Unknown	1	0	0	0	1	1	1	0	0	1	1	0	4	2	2	1	0	1	16
All Other Sites	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	3
TOTAL	33	27	24	26	38	49	72	64	41	64	70	58	66	51	44	19	10	12	768

\* Includes Multiple Primary Neoplasms.



The relative frequencies of primary cancers seen at KFSH&RC are very different from the Western world. Common tumors of the West (lung, colon, and prostate) are much less frequent here while soft tissue sarcoma, among others, is more common. The following 1992 analytic cases exhibit significant differences in trends from those of the West:

**Breast** - The most common malignancy seen at KFSH&RC is breast cancer, comprising 8.7% of all cases, as compared to about 16% of all neoplasms diagnosed in the U.S.A. It affects mostly women less than the age of 50, while in the U.S.A. those more than 50 years of age are mostly affected. As in the Western countries, it is the number one cancer among women.

**Non-Hodgkin's Lymphoma** - The most striking feature is the unusually high crude relative frequency of non-Hodgkin's lymphoma which is the most common type of malignancy seen in males and the third most common in females, accounting for 8.4% of all cases. The male/female ratio is 1.3:1. In the U.S.A., NHL accounts for only about 3% of all cancer.

**Thyroid** - 3.1% of all male malignancies in KFSH&RC are thyroid tumors. However, they represent 12.5% of female malignant neoplasms, second to breast cancer. The male/female ratio is 0.3:1. Thyroid cancer accounts for only 1.1% of all cases in the U.S.A. and 1.6% of female malignancies.

**Leukemia** - Leukemia constitutes 6.9% of all cases seen at KFSH&RC, as compared to about 3% of all neoplasms diagnosed in the U.S.A. It is also the most common malignancy in children under the age of 15. The male/female ratio is 1.6:1.

**Oral Cavity** - A high crude relative frequency rate was also noted in cancer of the oral cavity. In Western countries, oral cancer accounts for no more than 3% of all cancers, whereas at KFSH&RC it represents 6.6% of the cases. The male/female ratio is 1.4:1.

**Brain/CNS** - Primary malignant neoplasm of the brain and CNS accounts for 6.1% of all malignancies and ranks third among the most common childhood malignancies. The male/female ratio is 1.5:1. This is comparatively higher than in the West with only 1.5% of all cases.

**Lung** - Frequency of lung cancer is much lower than in Western countries, most likely reflecting the much lower levels of smoking and industrial pollution. In the U.S.A., primary lung cancer represents about 15% of all cancer cases (19% in males, and 11% in females).

At KFSH&RC, 4.2% of the diagnoses are lung cancer, although in males it is the fourth most common tumor, constituting 6.6% of male malignancies and 1.6% in females. The male/female ratio is 4.8:1.

**Colo-Rectal** - Markedly less common than in the West, for which dietary factors (particularly lower animal fat intake) may play a role, this disease represents only 4.2% of all tumors. In the U.S.A. it constitutes 14% of newly diagnosed cancer cases. The male/female ratio at KFSH&RC is 1.5:1.

**Esophagus** - The incidence of esophageal carcinoma is comparatively more frequent at KFSH&RC than in Western countries. In the U.S.A. it constitutes 1% of all cancers, compared to 3.7% at KFSH&RC. The male/female ratio is 1.3:1.

**Liver** - Although the relative frequency of liver cancer at the KFSH&RC (3.0%) is almost the same as that of the West, there is a very significant difference in the male/female ratio. KFSH&RC has 4.3:1 and the West, 1.1:1.

**Nasopharynx** - A higher crude relative frequency rate is seen in nasopharyngeal cancer. It constitutes less than 1% of the pathologically diagnosed cancers in most centers in the West, but is 2.8% of the cases at KFSH&RC. The male/female ratio is 4.8:1.

**Soft Tissue** - KFSH&RC cases show a higher rate of soft tissue malignancies than the U.S.A., with 2.8% against the latter's 0.5% of all cases. The male/female ratio is 2.0:1.

**Prostate** - The observed rate of prostatic cancer in men is much lower than in the West, where it is one of the most common male cancers (constituting 22% of the malignancies). This is in contrast to the KFSH&RC experience, where prostatic cancer makes up only 2.2% of the male cancer. This is probably due to the population age difference. Prostate cancer is a disease chiefly of old men and the population of Saudi Arabia is in general very young.

FIGURE 9

DISTRIBUTION OF 20 MOST COMMON MALIGNANCIES  
1992 ANALYTIC CASES (TOTAL CASES = 1,628)

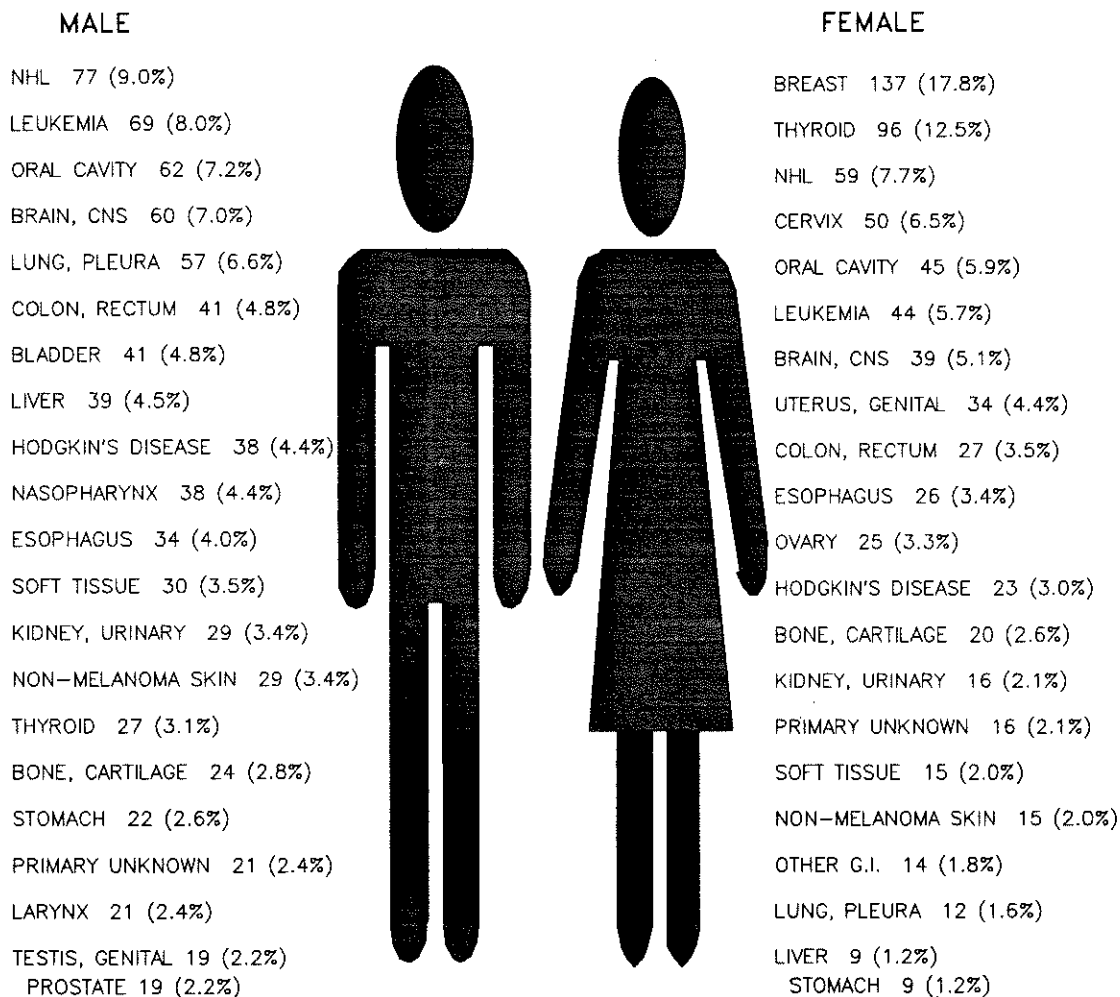
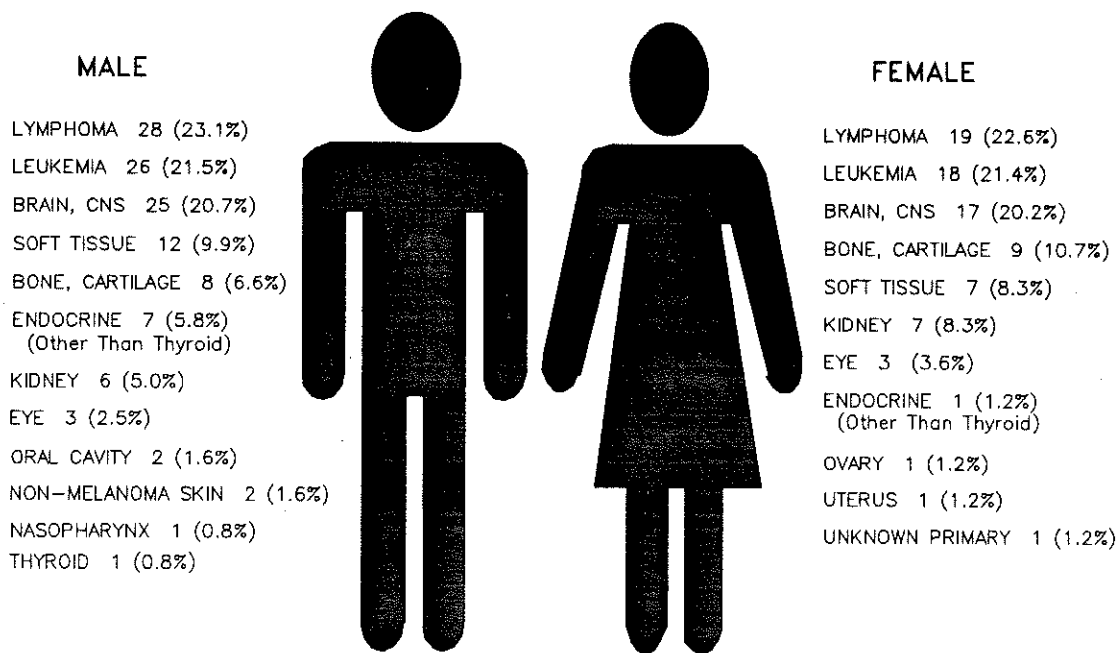


FIGURE 10  
 DISTRIBUTION OF CHILDHOOD MALIGNANCIES  
 1992 ANALYTIC CASES (TOTAL CASES = 205)



**TABLE 8**  
**PRIMARY SITE TABLE**  
**(INCLUDES MULTIPLE PRIMARIES)**  
**1 9 9 2**

SITE (ICD-O CODE)	HISTOLOGY	ALL CASES	MALES	FEMALES
		2,000	1,057	943
<b>LIP (140)</b>		<b>5</b>	<b>4</b>	<b>1</b>
	Squamous Cell Carinoma	4	3	1
	Adenoid Cystic Carcinoma	1	1	0
<b>TONGUE (141)</b>		<b>27</b>	<b>18</b>	<b>9</b>
	Squamous Cell Carinoma	25	17	8
	Carcinoma, NOS	1	0	1
	Malignant Mixed Tumor	1	1	0
<b>MAJOR SALIVARY GLANDS (142)</b>		<b>17</b>	<b>10</b>	<b>7</b>
	Mucoepidermoid Carcinoma	4	2	2
	Adenoid Cystic Carcinoma	4	1	3
	Squamous Cell Carcinoma	2	2	0
	Acinar Cell Carcinoma	1	1	0
	Adenocarcinoma, NOS	1	1	0
	Myoepithelial Carcinoma	1	0	1
	Lymphoepithelioma-Like Carcinoma	1	1	0
	Carcinoma in Pleomorphic Adenoma	1	1	0
	Non-Hodgkin's Lymphoma	1	1	0
	Hodgkin's Disease	1	0	1
<b>GUM (143)</b>		<b>10</b>	<b>7</b>	<b>3</b>
	Squamous Cell Carcinoma	9	6	3
	Non-Hodgkin's Lymphoma	1	1	0
<b>FLOOR OF MOUTH (144)</b>		<b>5</b>	<b>2</b>	<b>3</b>
	Squamous Cell Carcinoma			
<b>OTHER PARTS OF MOUTH (145)</b>		<b>27</b>	<b>17</b>	<b>10</b>
	Squamous Cell Carcinoma	21	14	7
	Non-Hodgkin's Lymphoma	2	1	1
	Adenoid Cystic Carcinoma	1	0	1
	Cribriform Carcinoma	1	1	0
	Mucoepidermoid Carcinoma	1	0	1
	Carcinoma, NOS	1	1	0
<b>OROPHARYNX (146)</b>		<b>6</b>	<b>3</b>	<b>3</b>
	Non-Hodgkin's Lymphoma	4	1	3
	Squamous Cell Carcinoma	2	2	0
<b>NASOPHARYNX (147)</b>		<b>59</b>	<b>46</b>	<b>13</b>
	Squamous Cell Carcinoma	28	26	2
	Undifferentiated Carcinoma	13	10	3
	Carcinoma, NOS	8	5	3
	Non-Hodgkin's Lymphoma	7	3	4
	Adenoid Cystic Carcinoma	1	1	0
	Adenocarcinoma	1	0	1
	Malignant Neoplasm	1	1	0
<b>HYPOPHARYNX (148)</b>		<b>28</b>	<b>12</b>	<b>16</b>
	Squamous Cell Carcinoma			

## Primary Site Table con't

SITE (ICD-0 CODE)	HISTOLOGY	ALL CASES	MALES	FEMALES
<b>ESOPHAGUS (150)</b>		<b>68</b>	<b>40</b>	<b>28</b>
	Squamous Cell Carcinoma	61	35	26
	Adenocarcinoma, NOS	4	4	0
	Carcinoma, Undifferentiated	1	0	1
	Carcinoma, NOS	1	1	0
	Malignant Neoplasm	1	0	1
<b>STOMACH (151)</b>		<b>68</b>	<b>45</b>	<b>23</b>
	Adenocarcinoma, NOS	31	22	9
	Non-Hodgkin's Lymphoma	21	13	8
	Signet Ring Cell Carcinoma	6	2	4
	Mucinous Adenocarcinoma	4	2	2
	Adenocarcinoma in Tubulovillous Adenoma	1	1	0
	Adenosquamous Carcinoma	1	1	0
	Carcinoma, NOS	2	2	0
	Linitis Plastica	1	1	0
	Carcinoma In Situ	1	1	0
<b>SMALL INTESTINE (152)</b>		<b>12</b>	<b>8</b>	<b>4</b>
	Non-Hodgkin's Lymphoma	6	3	3
	Adenocarcinoma, NOS	4	3	1
	Neuroendocrine Carcinoma	1	1	0
	Hodgkin's Disease	1	1	0
<b>COLON (153)</b>		<b>33</b>	<b>18</b>	<b>15</b>
	Adenocarcinoma, NOS	28	16	12
	Signet Ring Cell Carcinoma	2	0	2
	Mucinous Adenocarcinoma	2	1	1
	Mucin-Producing Adenocarcinoma	1	1	0
<b>RECTUM/RECTOSIGMOID JUNCTION/ANUS (154)</b>		<b>53</b>	<b>33</b>	<b>20</b>
	Adenocarcinoma, NOS	38	23	15
	Squamous Cell Carcinoma	5	5	0
	Mucin-Producing Adenocarcinoma	4	1	3
	Mucinous Adenocarcinoma	2	2	0
	Signet Ring Cell Carcinoma	1	1	0
	Cloacogenic Carcinoma	1	1	0
	Adenocarcinoma In Villous Adenoma	1	0	1
	Carcinoma In Situ In a Polyp	1	0	1
<b>LIVER/INTRAHEPATIC BILE DUCTS (155)</b>		<b>74</b>	<b>61</b>	<b>13</b>
	Hepatocellular Carcinoma	69	58	11
	Cholangiocarcinoma	2	2	0
	Neuroendocrine Carcinoma	1	0	1
	Mucin-Producing Adenocarcinoma	1	1	0
	Malignant Neoplasm	1	0	1
<b>GALLBLADDER/EXTRAHEPATIC BILE DUCTS (156)</b>		<b>19</b>	<b>7</b>	<b>12</b>
	Adenocarcinoma, NOS			
<b>PANCREAS (157)</b>		<b>26</b>	<b>17</b>	<b>9</b>
	Adenocarcinoma, NOS	20	12	8
	Carcinoma, NOS	3	2	1
	Mucin-Producing Adenocarcinoma	1	1	0
	Tubular Adenocarcinoma	1	1	0
	Malignant Neoplasm	1	1	0
<b>PERITONEUM (158)</b>		<b>2</b>	<b>1</b>	<b>1</b>
	Mesothelioma, Biphasic Type	1	1	0
	Mucinous Adenocarcinoma	1	0	1

## Primary Site Table con't

SITE (ICD-O CODE)	HISTOLOGY	ALL CASES	MALES	FEMALES
<b>OTHER G.I. SITES (159)</b>		<b>3</b>	<b>1</b>	<b>2</b>
Signet Ring Cell Carcinoma		2	0	2
Non-Hodgkin's Lymphoma		1	1	0
<b>NASAL CAVITIES/ACCESSORY SINUSES (160)</b>		<b>12</b>	<b>9</b>	<b>3</b>
Squamous Cell Carcinoma		4	2	2
Non-Hodgkin's Lymphoma		3	2	1
Plasmacytoma		2	2	0
Adenoid Cystic Carcinoma		1	1	0
Papillary Adenocarcinoma		1	1	0
Carcinoma, NOS		1	1	0
<b>LARYNX (161)</b>		<b>27</b>	<b>26</b>	<b>1</b>
Squamous Cell Carcinoma				
<b>BRONCHUS/LUNG (162)</b>		<b>80</b>	<b>63</b>	<b>17</b>
Adenocarcinoma		27	20	7
Squamous Cell Carcinoma		21	18	3
Large Cell Carcinoma		11	10	1
Small Cell Carcinoma		5	3	2
Bronchio-Alveolar Adenocarcinoma		4	3	1
Carcinoma, NOS		3	2	1
Oat Cell Carcinoma		2	1	1
Carcinoid Tumor		2	1	1
Malignant Neoplasm		2	2	0
Adenosquamous Carcinoma		1	1	0
Solid Carcinoma		1	1	0
Hodgkin's Disease		1	1	0
<b>PLEURA (163)</b>		<b>3</b>	<b>1</b>	<b>2</b>
Mesothelioma				
<b>MEDIASTINUM (164)</b>		<b>5</b>	<b>3</b>	<b>2</b>
Malignant Fibrous Histiocytoma		1	1	0
Malignant Neurilemmoma		1	0	1
Non-Hodgkin's Lymphoma		1	1	0
Hodgkin's Disease		1	1	0
Malignant Cells		1	0	1
<b>BLOOD (169)</b>		<b>1</b>	<b>0</b>	<b>1</b>
Waldenstrom's Macroglobulinemia				
<b>MULTIPLE MYELOMA (169)</b>		<b>23</b>	<b>18</b>	<b>5</b>
Plasma Cell Myeloma				
<b>BONE MARROW (169)</b>		<b>138</b>	<b>86</b>	<b>52</b>
Acute Lymphoid Leukemia		60	35	25
Acute Myeloid Leukemia		24	10	14
Chronic Myeloid Leukemia		27	18	9
Chronic Lymphoid Leukemia		12	11	1
Acute Leukemia, NOS		4	2	2
Acute Promyelocytic Leukemia		3	3	0
Acute Myelomonocytic Leukemia		3	3	0
Chronic Myelomonocytic Leukemia		2	1	1
Myeloid Leukemia, NOS		1	1	0
Megakaryocytic Leukemia		1	1	0
Erythroid Leukemia		1	1	0

## Primary Site Table con't

SITE (ICD-O CODE)	HISTOLOGY	ALL CASES	MALES	FEMALES
<b>BONE &amp; CARTILAGE (170)</b>		<b>51</b>	<b>27</b>	<b>24</b>
Osteosarcoma, NOS		27	12	15
Ewing's Sarcoma		15	9	6
Chondrosarcoma, NOS		4	3	1
Non-Hodgkin's Lymphoma		2	2	0
Myxoid Chondrosarcoma		1	0	1
Chondroblastic Osteosarcoma		1	1	0
Juxtacortical Osteosarcoma		1	0	1
<b>CONNECTIVE/SUBCUTANEOUS/SOFT TISSUE (171)</b>		<b>59</b>	<b>39</b>	<b>20</b>
Myxoid Liposarcoma		7	4	3
Sarcoma, NOS		6	5	1
Embryonal Rhabdomyosarcoma		5	3	2
Leiomyosarcoma, NOS		5	2	3
Neuroblastoma, NOS		5	3	2
Malignant Fibrous Histiocytoma		5	5	0
Rhabdomyosarcoma, NOS		4	4	0
Synovial Sarcoma, NOS		3	2	1
Fibrosarcoma, NOS		2	0	2
Spindle Cell Sarcoma		2	2	0
Chordoma		2	2	0
Non-Hodgkin's Lymphoma		2	2	0
Alveolar Rhabdomyosarcoma		1	0	1
Alveolar Soft Part Sarcoma		1	0	1
Endometrial Stromal Sarcoma		1	0	1
Giant Cell Sarcoma		1	0	1
Extra-skeletal Ewing's Sarcoma		1	1	0
Liposarcoma, Well-Differentiated		1	1	0
Dedifferentiated Liposarcoma		1	1	0
Hemangiosarcoma		1	1	0
Neuroepithelioma, NOS		1	1	0
Peripheral Neuroectodermal Tumor		1	0	1
Malignant Neoplasm		1	0	1
<b>SKIN (MELANOMA) (173)</b>		<b>13</b>	<b>7</b>	<b>6</b>
Malignant Melanoma		12	7	5
Acral Lentiginous Melanoma		1	0	1
<b>SKIN (NON-MELANOMA) (173)</b>		<b>60</b>	<b>37</b>	<b>23</b>
Squamous Cell Carcinoma		24	14	10
Basal Cell Carcinoma		13	10	3
Kaposi's Sarcoma		12	7	5
Dermatofibrosarcoma Protuberans		4	3	1
Mycosis Fungoides		2	1	1
Non-Hodgkin's Lymphoma		2	0	2
Malignant Blue Nevus		1	0	1
Sweat Gland Adenocarcinoma		1	1	0
Adenoid Cystic Adenocarcinoma		1	1	0
<b>BREAST, FEMALE (174)</b>		<b>180</b>	<b>0</b>	<b>180</b>
Duct Cell Carcinoma		148	0	148
Paget's Disease & Duct Cell Carcinoma		7	0	7
Comedocarcinoma		6	0	6
Carcinoma, NOS		5	0	5
Lobular Carcinoma		3	0	3
Medullary Carcinoma		3	0	3
Cystosarcoma Phyllodes		2	0	2
Tubular Adenocarcinoma		1	0	1

## Primary Site Table con't

SITE (ICD-O CODE)	HISTOLOGY	ALL CASES	MALES	FEMALES
<b>BREAST, FEMALE (174) (Cont'd)</b>				
	Infiltrating Duct & Lobular Carcinoma	1	0	1
	Adenocarcinoma, NOS	1	0	1
	Non-Hodgkin's Lymphoma	1	0	1
	Intraductal Carcinoma, Non-Infiltrating	1	0	1
	Lobular Carcinoma In Situ	1	0	1
<b>BREAST, MALE (175)</b>				
	Duct Cell Carcinoma	4	4	0
	Paget's Disease & Duct Cell Carcinoma	3	3	1
		1	1	0
<b>CERVIX UTERI (180)</b>				
	Squamous Cell Carcinoma	52	0	52
	Adenocarcinoma, NOS	45	0	45
	Papillary Adenocarcinoma	4	0	4
	Adenosquamous Carcinoma	1	0	1
	Carcinoma In Situ	1	0	1
<b>PLACENTA (181)</b>				
	Choriocarcinoma	11	0	11
	Trophoblastic Tumor	8	0	8
		3	0	3
<b>CORPUS UTERI (182)</b>				
	Adenocarcinoma, NOS	27	0	27
	Leiomyosarcoma, NOS	16	0	16
	Mesodermal Mixed Tumor	2	0	2
	Carcinosarcoma	2	0	2
	Endometrial Stromal Sarcoma	2	0	2
	Papillary Serous Cystadenocarcinoma	1	0	1
	Adenosquamous Carcinoma	1	0	1
	Carcinoma, NOS	1	0	1
	Adenocarcinoma In Situ	1	0	1
<b>OVARY (183)</b>				
	Papillary Serous Cystadenocarcinoma	46	0	46
	Malignant Teratoma	8	0	8
	Adenocarcinoma, NOS	7	0	7
	Serous Cystadenocarcinoma	5	0	5
	Papillary Adenocarcinoma	4	0	4
	Mucinous Cystadenocarcinoma	3	0	3
	Papillary Serous, Borderline Malignancy	3	0	3
	Dysgerminoma	3	0	3
	Mesodermal Mixed Tumor	2	0	2
	Carcinoma, NOS	2	0	2
	Non-Hodgkin's Lymphoma	2	0	2
	Endometrioid Carcinoma	2	0	2
	Papillary Serous Carcinoma	1	0	1
	Neuroendocrine Carcinoma	1	0	1
	Endodermal Sinus Tumor	1	0	1
	Malignant Granulosa Cell Tumor	1	0	1
<b>OTHER FEMALE GENITAL ORGANS (184)</b>				
	Squamous Cell Carcinoma	3	0	3
	Adenocarcinoma, NOS	2	0	2
		1	0	1
<b>PROSTATE (185)</b>				
	Adenocarcinoma, NOS	36	36	0
	Small Cell Carcinoma, NOS	31	31	0
	Carcinoma, NOS	1	1	0
		4	4	0



## Primary Site Table con't

SITE (ICD-O CODE)	HISTOLOGY	ALL CASES	MALES	FEMALES
<b>TESTIS (186)</b>		<b>20</b>	<b>20</b>	<b>0</b>
	Seminoma, NOS	12	12	0
	Mixed Germ Cell Tumor	5	5	0
	Embryonal Carcinoma, NOS	2	2	0
	Spermatocytic Seminoma	1	1	0
<b>OTHER MALE GENITAL ORGANS (187)</b>		<b>1</b>	<b>1</b>	<b>0</b>
	Kaposi's Sarcoma			
<b>URINARY BLADDER (188)</b>		<b>63</b>	<b>53</b>	<b>10</b>
	Papillary Transitional Carcinoma	20	16	4
	Transitional Cell Carcinoma	29	26	3
	Squamous Cell Carcinoma	10	7	3
	Carcinoma, NOS	2	2	0
	Transitional Cell Carcinoma, Spindle Cell	1	1	0
	Squamous Cell Carcinoma, Spindle Cell	1	1	0
<b>KIDNEY (189)</b>		<b>53</b>	<b>34</b>	<b>19</b>
	Renal Cell Carcinoma	34	24	10
	Nephroblastoma	13	6	7
	Papillary Transitional Carcinoma	4	3	1
	Squamous Cell Carcinoma	2	1	1
<b>EYE (190)</b>		<b>16</b>	<b>9</b>	<b>7</b>
	Retinoblastoma	8	4	4
	Squamous Cell Carcinoma	4	2	2
	Malignant Melanoma	1	1	0
	Pleomorphic Rhabdomyosarcoma	1	1	0
	Myeloid Sarcoma	1	1	0
	Adenoid Cystic Carcinoma	1	0	1
<b>BRAIN (191)</b>		<b>104</b>	<b>64</b>	<b>40</b>
	Astrocytoma	38	22	16
	Glioblastoma, NOS	28	20	8
	Medulloblastoma, NOS	12	8	4
	Malignant Glioma	7	3	4
	Primitive Neuroectodermal Tumor	5	2	3
	Ependymoma	4	3	1
	Desmoplastic Medulloblastoma	2	1	1
	Oligodendroglioma, NOS	2	1	1
	Gemistocytic Astrocytoma	1	0	1
	Fibrillary Astrocytoma	1	1	0
	Pilocytic Astrocytoma	1	0	1
	Giant Cell Glioblastoma	1	1	0
	Medulloblastoma	1	1	0
	Germinoma	1	1	0
<b>OTHER NERVOUS SYSTEM (192)</b>		<b>7</b>	<b>4</b>	<b>3</b>
	Astrocytoma, NOS	2	1	1
	Malignant Glioma	1	0	1
	Malignant Meningioma	1	1	0
	Primitive Neuroectodermal Tumor	1	1	0
	Ewing's Sarcoma	1	0	1
	Non-Hodgkin's Lymphoma	1	1	0

## Primary Site Table con't

SITE (ICD-O CODE)	HISTOLOGY	ALL CASES	MALES	FEMALES
<b>THYROID (193)</b>		<b>143</b>	<b>34</b>	<b>109</b>
	Papillary Carcinoma, NOS	119	27	92
	Papillary & Follicular Adenocarcinoma	12	4	8
	Carcinoma, Anaplastic Type	3	1	2
	Follicular Adenocarcinoma	2	0	2
	Medullary Carcinoma	2	1	1
	Oxyphilic Adenocarcinoma	2	0	2
	Non-Hodgkin's Lymphoma	2	1	1
	Spindle Cell Carcinoma	1	0	1
<b>OTHER ENDOCRINE GLANDS (194)</b>		<b>14</b>	<b>12</b>	<b>2</b>
	Neuroblastoma	6	6	0
	Adrenal Cortical Carcinoma	4	3	1
	Germinoma	2	1	1
	Pineoblastoma	1	1	0
	Adenocarcinoma, NOS	1	1	0
<b>LYMPH NODES, NON-HODGKIN'S LYMPHOMA (196)</b>		<b>89</b>	<b>51</b>	<b>38</b>
	(Excluding Extra-Nodal Lymphomas)			
	Large Cell Lymphoma	44	23	21
	Immunoblastic Lymphoma	10	5	5
	Lymphoblastic Lymphoma	8	7	1
	Small Cell Lymphoma	8	5	3
	Malignant Lymphoma, NOS	5	1	4
	Burkitt's Lymphoma	4	2	2
	Non-Hodgkin's Lymphoma, NOS	4	3	1
	Small Lymphocytic Lymphoma	2	2	0
	Mixed Small Cleaved & Large Cell, Follicular	2	2	0
	Mixed Small & Large Cell, Diffuse	1	1	0
	Centroblastic Lymphoma	1	0	1
<b>LYMPH NODES, HODGKIN'S DISEASE (196)</b>		<b>67</b>	<b>43</b>	<b>24</b>
	Nodular Sclerosis	43	25	18
	Mixed Cellularity	10	7	3
	Hodgkin's Disease, NOS	8	7	1
	Lymphocytic Predominance	6	4	2
<b>PRIMARY UNKNOWN (199)</b>		<b>50</b>	<b>26</b>	<b>24</b>
	Adenocarcinoma, NOS	24	13	11
	Squamous Cell Carcinoma	8	6	2
	Carcinoma, NOS	4	1	3
	Neuroendocrine Carcinoma	3	3	0
	Undifferentiated Carcinoma	2	2	0
	Malignant Neoplasm	2	0	2
	Malignant Cell	2	0	2
	Small Cell Carcinoma, NOS	1	1	0
	Papillary Carcinoma, NOS	1	0	1
	Mucin-Producing Adenocarcinoma	1	0	1
	Signet Ring Cell Carcinoma	1	0	1
	Choriocarcinoma	1	0	1

**TABLE 9**  
**PATIENTS WITH MULTIPLE PRIMARIES**  
**1 9 9 2**

PRIMARY SITE 1992	HISTOLOGY	OTHER PRIMARIES (PREVIOUS OR CONCURRENT)	ALL CASES	MALES	FEMALES
			35	17	18
<b>ORAL CAVITY</b>			3	2	1
	Squamous Cell Ca-Tongue	Thyroid	1	1	0
	Squamous Cell Ca-Gum	Tongue	1	1	0
	Squamous Cell Ca-Mucosa	Lower Gum	1	0	1
<b>STOMACH</b>			2	1	1
	Adenocarcinoma	Stomach - NHL	1	0	1
	Non-Hodgkin's Lymphoma	Skin, Cheek	1	1	0
<b>COLON, RECTUM</b>			5	1	4
	Adenocarcinoma-Cecum	Breast	1	0	1
	Adenocarcinoma-Cecum*	Skin, Rt Ear	1	1	0
		Hepatic Flexure			
		Colon, NOS			
	Adenocarcinoma-Appendix	Breast	1	0	1
	Adenoca - Rectosigmoid	Brain	1	0	1
	Adenocarcinoma - Rectum	Colon	1	0	1
<b>GALLBLADDER</b>			1	1	0
	Adenocarcinoma	Rectum			
<b>LARYNX</b>			1	1	0
	Squamous Cell Carcinoma	Eye			
<b>LUNG</b>			2	1	1
	Adenocarcinoma	Bladder	1	1	0
	Squamous Cell Carcinoma	Lower Gum	1	0	1
<b>BONE MARROW</b>			1	1	0
	Chronic Lymphoid Leukemia	Nasopharynx			
<b>BONE</b>			1	1	0
	Osteosarcoma	Hodgkin's Disease			
<b>CONNECTIVE TISSUE</b>			1	1	0
	Fibrous Histiocytoma	Colon			
<b>SKIN</b>			2	0	2
	Non-Hodgkin's Lymphoma	Chronic Myeloid Leukemia	1	0	1
	Kaposi's Sarcoma	Mycosis Fungoides	1	0	1
<b>BREAST</b>			6	0	6
	Duct Cell Carcinoma	Contra. Breast	4	0	4
	Comedocarcinoma	Contra. Breast	1	0	1
	Comedocarcinoma	Hypopharynx	1	0	1
<b>UTERUS</b>			1	0	1
	Adenocarcinoma	Thyroid			
<b>PROSTATE</b>			1	1	0
	Adenocarcinoma	Bladder			

## Multiple Primaries con't

PRIMARY SITE	HISTOLOGY	OTHER PRIMARIES (PREVIOUS OR CONCURRENT)	ALL CASES	MALES	FEMALES
<b>KIDNEY</b>			<b>3</b>	<b>2</b>	<b>1</b>
	Renal Cell Carcinoma	Thyroid	1	0	1
	Renal Cell Carcinoma	Breast	1	1	0
	Renal Cell Carcinoma	Contra. Kidney	1	1	0
<b>BRAIN &amp; CNS</b>			<b>1</b>	<b>1</b>	<b>0</b>
	Astrocytoma	Hodgkin's Disease			
<b>THYROID</b>			<b>3</b>	<b>3</b>	<b>0</b>
	Papillary Carcinoma	Larynx	2	2	0
	Papillary Carcinoma	Tongue	1	1	0
<b>PRIMARY UNKNOWN</b>			<b>1</b>	<b>0</b>	<b>1</b>
	Adenocarcinoma	Cervix			

\* Patient has four primaries.

## STAGE OF DISEASE AT DIAGNOSIS

Stage in any malignant process may be defined as the particular step, phase, or extent in a tumor's development which is one of the predictors for outcome and treatment selection. The microscopic appearance, extent, and biological behavior of a tumor as well as host factors play a part in prognosis and are therefore important in staging.

The SEER (Surveillance, Epidemiology, and End Results) Summary Staging Guide was utilized for all stageable cases. This system summarizes the disease categories into four general staging groups (i.e. in situ, localized, regional, and distant). Stage categories are based on a combination of clinical observations and operative-pathological evaluation.

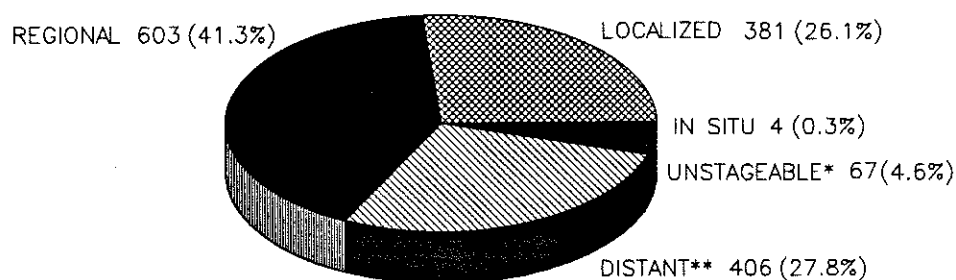
### Summary Staging Definitions:

- IN SITU:** Intraepithelial, noninvasive, noninfiltrating
- LOCALIZED:** Within organ
- a. Invasive cancer confined to the organ of origin
  - b. Intraluminal extension where specified
- REGIONAL:** Beyond the organ of origin
- a. By direct extension to adjacent organs/tissues
  - b. To regional lymph nodes
  - c. Both (a) and (b)
- DISTANT:** Direct extension or metastasis
- a. Direct continuity to organs other than above
  - b. Discontinuous metastasis
  - c. To distant lymph nodes

Systemic diseases, i.e., leukemia and multiple myeloma and cases of unknown primary were disregarded in graphically illustrating the stages for all analytic cases seen at KFSH&RC in 1992. The 37 cases unstageable at diagnosis were those patients who refused further diagnostic workup or further workup was not possible due to the patients' state of health; e.g. terminal cases or those with co-morbid conditions. Please refer also to Table 4, page 17, for the distribution of the 1992 analytic cases by site and stage at diagnosis.

FIGURE 11

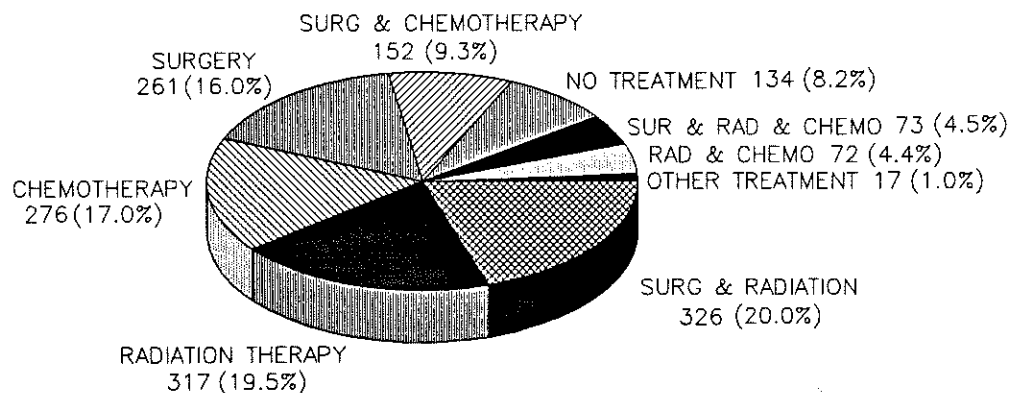
DISTRIBUTION OF ANALYTIC CASES BY STAGE AT DIAGNOSIS - 1992 (TOTAL CASES = 1,461)



\* EXCLUDES UNKNOWN PRIMARIES (37 CASES)  
 \*\* EXCLUDES LEUKEMIA AND MULTIPLE MYELOMA (130 CASES)

FIGURE 12

DISTRIBUTION OF ANALYTIC CASES BY FIRST COURSE OF TREATMENT (SINGLY OR IN COMBINATION) 1992 (TOTAL CASES = 1,628)



## APPENDIX A

## 1992 SPECIAL STUDY REQUESTS FROM TUMOR REGISTRY DATA

\*Publication \*\*KFSH Presentation \*\*\*Outside KFSH Presentation

## January

Malig Tumors of the Ear & Temporal Bone(1980-1991)\*\*\* Dr. Z. Mahasin  
 All Pediatric Leukemia Cases (1975-1992) Dr. M. Al Mahr  
 Histiocytosis X Cases (1975-1991)\*\* Dr. M. Abuzeid  
 Breast Cancer Cases, Females <40 Yrs Old (1975-1990) Dr. A. Ezzat  
 Patients <14 Yrs Old with Wilm's Tumor, Neuroblastoma, Dr. K. Sackey  
 Rhabdomyosarcoma, Hepatoblastoma, Retinoblastoma,  
 Germ Cell Tumor, Ewing's Sarcoma, Osteogenic Sar-  
 coma, Acute Leukemia & Lymphoma (Jan 83-Jan 91)  
 Small Cell Lung Ca Cases (MR Numbers)(Jan 90-Jan 92) Dr. Khaila

## February

All Childhood Cancer By Site (1975-1992)\*\*\* Dr. A. Ali

## March

Pediatric & Adult Malignant Cases By Sex for the Dr. R. Sabbah  
 Past 5 Yrs  
 Histiocytosis X Cases (MR Numbers) (1975-1992) Dr. A. Martins  
 Malignant Ovarian Tumors with Histology & Status at Cl. Research Unit  
 Last Contact (MR Numbers)(1975-1992)  
 Adult A.L.L. Cases with Class of Case & Status at Cl. Research Unit  
 Last Contact (MR Numbers)(1975-1992)  
 Mesothelioma & Lung Cancer Cases By Year & Region Dr. H. Kassouf  
 (1975-1991)\*\*

## April

CML Patients >14 Years Old with Status at Last Cl. Research Unit  
 Contact (MR Numbers)(1975-1991)  
 Angiofibroma of Nasopharynx (MR Numbers)(1975-1992) Dr. H. Abdallah  
 Nasopharyngeal Cancer Cases, Patients <19 Yrs Dr. H. Abdallah  
 (MR Numbers)(1975-1992)

## May

Brain Tumors By Site, Children Vs Total. Total Dr. I. Kanaan  
 Malignant Tumors By Site (1986-1992)\*\*  
 Cancer of the Colon, Rectum & Anus By Age, Sex & Dr. D. Pradhan  
 Stage (1980-1990)  
 Ki-1 Lge Cell NHL By Age, Sex, Site, Stage, Date Dx, Tx Dr. A. Ezzat  
 & Status at Last Contact (MR Numbers)(1987-1991)  
 Cancer of Post-Cricoid, Pyriform Fossa, Hypopharynx Dr. Z. Mahasin  
 & Upper Esophagus (MR Numbers)(1988-1992)

## June

Non-Hodgkin's Lymphoma Cases (MR Numbers)(1992) Cl. Research Unit  
 Head & Neck Cancer Cases By Site & Year (1988-1991) Dr. S. El Akkad  
 Malignant Tumors of the Foot (Bone & Soft Tissue) Dr. A. Shah  
 (MR Numbers)(1975-1992)\*  
 Kaposi's Sarcoma Cases By Region & Total Cases in Dr. W. Quinibi  
 the Tumor Registry Database (1975-1992)\*  
 Patients with Cervical Ca, Soft Tissue Sarcoma, Ms. J. Al-Dihan  
 Osteogenic Sarcoma, Leukemia Undergoing BMT &  
 Ped. Acute Leukemia, Last 50 Cases (MR Numbers)  
 Malignant Tumors of the Hand (Bone & Soft Tissue) Dr. A. Shah  
 (MR Numbers)(1975-1992)\*

## July

Wilm's Tumor Patients (MR Numbers)(1987-1992)***	Dr. A. Al Rawaf
Pediatric A.L.L. Cases (MR Numbers)(1990-1992)	Dr. Al Mahr
Paraorbital/Orbital Rhabdomyosarcoma Patients <14 Yrs Old (MR Numbers)(1982-1992)**	Dr. K. Sackey

## August

Kaposi's Sarcoma, Saudi & Gulf Patients (MR Numbers)	Dr. M. Ellis
MDS/AML Patients >14 Yrs Old (MR Numbers)(1991-1992)	Ms. F. Skabo
Osteogenic Sarcoma Patients (MR Numbers)(1989-1992)	Dr. A. El-Warith
Cancer of the Colon, Rectum & Stomach with Histology & Stage (MR Numbers)(1980-1991)***	Dr. S. Bazarbashi

## September

Histiocytosis X/Eosinophilic Granuloma/Letterer-Siwe's Disease with Sex & Age (MR Numbers)(1975-1992)**	Dr. M. Ahmed
Hodgkin's Lymphoma with Age, Sex, & Histology (MR Numbers (1980-1992)	Cl. Research Unit
Retinoblastoma & Optic Nerve Glioma By Laterality, Stage & Status at Last Contact (1975-1991)	Dr. D. Pradhan

## October

Cancer of the Esophagus, 5-Year Summary By Site, Histology, Age, Sex, & Region (1975-1989)***	Dr. S. El Akkad
Cancer of the Lung, Oral Cavity, Stomach, Thyroid, Brain & CNS, 5-Year Summary By Site, Histology, Age, Sex & Region (1975-1989)***	Dr. S. El Akkad
Thyroid Cancer Cases with Bone Metastasis At Dx or During The Course of Tx (MR Numbers)(1975-1992)	Dr. M. Ahmed
Osteosarcoma Cases By Age, Sex, Site, Distant Mets, Treatment & Status at Last Contact (1975-1991)***	Dr. S. Lindahl
Malignant Soft Tissue Tumors By Histology & Age (1975-1990)**	Dr. Barr
Chr Lymphocytic Leukemia Cases (MR Numbers)(1975-1992)	Dr. P. Ernst
Adult Hodgkin's Disease By Year & Stage (1989-1991)	Dr. A. El-Warith
Carcinoid Tumors By Site, Histology & Status at Last Contact (MR Numbers)(1975-1992)*	Dr. Al Ahmari

## November

Pediatric Patients with Kidney Ca (Wilm's Tumor, Clear Cell Sarcoma & Malig Rhabdoib Tumor) (MR Numbers) (1975-1992)	Dr. K. Sackey
Medulloblastoma Cases (MR Numbers)(1975-1992)	Dr. Y. Khafaga

## December

Non-Hodgkin's Lymphoma of the Breast (1975-1992)	Dr. A. Ezzat
Childhood Tumors By Site, Histology, Age & Region (1975-1992)***	Dr. A. Ali



## APPENDIX B

## 1992 Tumor Committee Members

Saleh El Akkad, M.D.	Radiation Oncology
M. Ashraf Ali, M.D.**	Pathology
William Allard, D.M.D.	Dentistry
Hamad Al Daig	CHIC
Peter Ernst, M.D.*	Medical Hematology
Adnan Ezzat, M.D.	Oncology
Mohd Hannan, Ph.D.	B&MR Research Centre
William Isbister, M.D.	Surgery
Peter McArthur, M.D.	Surgery
Dolores K. Michels, C.T.R.	Tumor Registry
Lamia NouNou	Social Services
Andrew Padmos, M.D.	Oncology
Robin Pavillard, M.D.	Quality Assurance
Sultan Al Sedairy, Ph.D.	B&MR Research Centre
Jens O. Sieck, M.D.	Medicine
Jamal Al Subhi, M.D.	Obstetrics/Gynecology

\* Tumor Committee Chairman

\*\* Deputy Chairman

## APPENDIX C

## 1992 SUMMARY OF ONCOLOGY GRAND ROUNDS TOPICS

16 Feb	DNA Content Analysis As A Prognostic Factor in Patients with Solid Tumors	Dr. A. El-Naggar
23 Feb	Standardization of Treatment of GI Cancers, Part I	Dr. S. Bazarbashi
01 Mar 03 Mar	Perspectives on Childhood Leukemia Myelodysplasia	Dr. G. Dahl Drs. Clink, Musa, Al-Fiar
21 Apr	Carcinoma of Lower GI Tract: Its Treatment	Drs. Shabanah, Pradhan, Christophersen
05 May 19 May 26 May	Chediak Higashi Syndrome Complications & Management of Myeloma Genetics of Carcinoma	Dr. A. Al Nasser Drs. Clink & Musa Dr. N. Sakati
02 June	Angiofibroma of the Nasopharynx	Drs. Bull, Abdallah, Ali, Abuzeid, Larsson
23 June 30 June	Ki-1 Non-Hodgkin's Lymphoma Gestational Breast Cancer	Dr. R. Sabbah Dr. A. Ezzat
07 July	Accelerated Vs Conventional Fraction in the Post-Op Irradiation of Locally Advanced Head & Neck Cancer: Influence of Tumor Proliferation	Drs. Khafaga & El Akkad
14 July 21 July	A Case Report: Intracranial Tumor Mass Oral cancer: Detection & Diagnosis: Examination for Oral Cancer	Dr. A. Martins Dr. W. Allard
28 July	Biology of Early Breast Cancer	Dr. J. Berry
04 Aug	Current Management Policies In Cancer of Rectum, Prostate & Bladder in Vancouver, Canada	Dr. M. Manji
11 Aug 18 Aug	Paraorbital Rhabdomyosarcoma at KFSH Neurological Complications in Leukemic Patients	Dr. K. Sackey Drs. Clink, McLean, Coates
01 Sept 08 Sept	Lymphoproliferative Disease Treatment of Metastatic Soft Tissue Sarcoma	Dr. A. Martins Drs. Verweij, Raja, Wierzbicki
14 Sept	Chronic Granulocytic Leukemia: Molecular & Treatment Strategies	Dr. P. Ernst
22 Sept	Non-Operative Management of Malignant Intestinal Obstruction	Dr. A. Gray
29 Sept	Multimodality Treatment of Esophageal Cancer	Dr. Yosef
06 Oct	Assessment of Subclinical Anthracycline Cardiotoxicity	Drs. Dalmark, Al Warith, Mercer, Rifai
13 Oct 20 Oct	Chronic Lymphocytic Leukemia Quality of Life in Survivors of Childhood Cancer	Dr. Sahovic Dr. Barr
27 Oct	Treatment Results of Early Breast Ca	Dr. A. Rostom

03 Nov	Childhood Acute Lymphoblastic Leukemia: HSC Experience	Dr. H. Solh
10 Nov	"July's Legacy" - Talking with Cancer Patients	Dr. A. Gray
17 Nov	Overview of the Dental Management of Chemotherapy & Radiotherapy Patients	Dr. G. King
24 Nov	A Challenging Case	Dr. Brodtkorb
08 Dec	Complications Following Therapy for Retinoblastoma	Dr. K. Sackey
22 Dec	Application of Stereotactic Principle in Radiation Therapy	Dr. Malakar
29 Dec	The Salvage Therapy for Hodgkin's Disease	Dr. S. Bazarbashi

Oncology Grand Rounds Moderator: Dr. Andrew Padmos

#### IV. GLOSSARY OF TERMS

**Accessioned:** Patients are entered into the Tumor Registry by the year in which they were first seen at KFSH&RC for each primary cancer.

**Age of Patient:** Recorded in completed years at the time of diagnosis for analytic cases. For nonanalytic cases, it is reported at age first entered into the Tumor Registry.

**Analytic Cases:** Cases which were first diagnosed and/or received all or part of their first course of treatment at KFSH&RC.

**Non-Analytic Cases:** Cases diagnosed elsewhere and received all of their first course of treatment elsewhere.

**Case:** A diagnosis or finished abstract.

**Patient:** An individual who has cancer. A patient who has more than one primary will be reported as multiple cases.

**Stage of Disease:** Determined at the time of the first course of treatment.

**SEER Summary Staging Guide:**

**In Situ:** Tumor meets all microscopic criteria for malignancy except invasion.

**Local:** Tumor is confined to organ of origin.

**Regional:** Tumor has spread by direct extension to immediately adjacent organs and/or lymph nodes and appears to have spread no further.

**Distant:** Tumor has spread beyond immediately adjacent organs or tissues by direct extension and/or has either developed secondary or metastatic tumors, metastasized to distant lymph nodes or has been determined to be systemic in origin.

**Unknown:** Tumor is said to be unknown when the stage cannot be determined by the medical record or a medical authority.

**American Joint Committee on Cancer - TNM Staging:** A classification scheme based on the premise that cancers of similar histology or site of origin share similar patterns of growth and extension:

T+N+M = Stage

(T) tumor size

(N) regional node involvement

(M) distant metastases

**First Course of Treatment:** The initial tumor-directed treatment or series of treatments, usually initiated within four months after diagnosis.

**Crude Relative Frequency:** The proportion of a given cancer in relation to all cases in a clinical or pathological series.

