

INTRODUCTION

The Gynecologic Oncology Division, Department of Obstetrics and Gynecology at the University of Kentucky Medical Center serves as the referral center for patients with gynecologic malignancies in much of the Appalachian region. Although the majority of patients come from central and eastern Kentucky, many patients are referred from southern Ohio, northern Tennessee, and West Virginia. Since its inception, the primary goals of this Division have been to (1) provide optimal care to patients with gynecologic cancers, (2) teach the principles of gynecologic surgery and oncology to students, residents and Fellows and (3) perform basic and clinical research which will improve the diagnosis and treatment of gynecologic malignancies.

REGIONAL OFF-SITE CLINICS

Monthly clinics staffed by members of the Division of Gynecologic Oncology are held in the following locations:

1. Morehead Cancer Center, Morehead, Kentucky
2. U.K. Center for Rural Health, Hazard, Kentucky
3. Highlands Regional Medical Center, Prestonsburg, Kentucky

Approximately 800 patients are seen in these clinics each year and many receive at least a portion of their care at the University of Kentucky Medical Center. In addition, members of the Division of Gynecologic Oncology provide consulting medical services at Samaritan, Lexington, Kentucky, Central Baptist Hospital, Lexington, Kentucky, and St. Joseph East and West, Lexington, Kentucky.

The Gynecologic Oncology Division is a participant in the Gynecologic Oncology Group and as such has access to all GOG protocols. In addition, a variety of institutional protocols are available to patients with gynecologic malignancies. Protocol activities for the Division of Gynecologic Oncology are under the direction of Fred R. Ueland, M.D., and are coordinated through the office of Protocol Management in the Markey Cancer Center by Michele Hughes, B.A.

Patient follow-up is coordinated by a full-time Gynecologic Oncology Tumor Registrar and is carried out in cooperation with local county health offices and representatives of the American Cancer Society and the Kentucky Department of Vital Statistics. Patient data is also entered into a computerized regional cancer information service supported by the Markey Cancer Center, and the National Cancer Institute.

VI. FELLOWSHIP PROGRAM

The Fellowship Program in Gynecologic Oncology at the University of Kentucky is three years in length, and the Fellows are trained at the University of Kentucky - Markey Cancer Center. The Fellow is provided comprehensive instruction concerning the diagnosis, evaluation and treatment of patients with gynecologic cancer. This includes principles of colposcopy and laser surgery, as well as laparoscopic surgery, radical surgery, chemotherapy, and radiation therapy. The goal of this program is to provide the Fellow with the knowledge necessary to fulfill the educational objectives specified by the American Board of Obstetrics and Gynecology, Division of Gynecologic Oncology.

During the first year of the program, the Fellow takes basic courses in radiobiology provided by the Department of Radiation Medicine, chemotherapy provided by the Division of Gynecologic Oncology, and Biostatistics (Statistics 570) provided by the Department of Statistics at the University of Kentucky. In addition, each Fellow is required to take a course in the principles of laser therapy. These courses are designed to provide a foundation of knowledge which the Fellow can build upon throughout the clinical rotations of the Fellowship. The majority of time during the first year of the Fellowship will be spent performing basic research in the Combs Basic Science Center, a facility of the Markey Cancer Center. The second and third year of the Fellowship will be spent on the Gynecologic Oncology Services at the University of Kentucky Medical Center. The Fellow sees all new patients with the attending staff in weekly Tumor Clinics. These patients are then admitted to the Gynecologic Oncology Services where they are evaluated prior to therapy. The Fellowship Program and the Residency Program in Obstetrics and Gynecology are fully integrated, and the Fellow is responsible for teaching the principles of gynecologic oncology to the residents on daily inpatient rounds. In addition, the Fellow presents a weekly teaching conference to residents and medical students concerning various subjects of gynecologic oncology.

Each patient on the Gynecologic Oncology Service is presented by the Fellow at the weekly Gynecologic Oncology Conference which is attended by members of the Departments of Radiation Medicine and Pathology, and the Division of Gynecologic Oncology. This conference is divided into three sections, (1) a didactic session reviewing the literature on a specific oncologic subject, (2) a discussion of each patient on the Gynecologic Oncology Service, (3) a discussion of patients scheduled to be treated during the upcoming week. The therapy for every patient is jointly decided upon after thorough evaluation of the site, stage and cell type of each tumor.

All patients with cytologic evidence of cervical or vaginal epithelial abnormalities are examined colposcopically in weekly colposcopy clinics. These clinics are attended by the Fellow, Gynecologic Oncology faculty, and residents. Principles of colposcopy are reviewed early in the second year of Fellowship and the Fellow is given increasing responsibility to determine the correct method of therapy for patients with cervical intraepithelial neoplasia (CIN). The clinic contains two laser therapy units and one LEEP unit, and the majority of patients with CIN are treated on an outpatient basis.

The principles of radical surgery are taught to each Fellow during each year of the Fellowship. During the second year of Fellowship, the Fellow assists the attending staff in radical surgical procedures including exenterative surgery and urinary tract reconstruction. Gynecologic Oncology Fellows are also taught principles of complex bowel, bladder, plastic, and vascular surgery in regularly scheduled experimental surgery laboratories using canine and porcine models. Finally, Fellows are instructed in the principles of sonographic screening for ovarian cancer, and in color Doppler evaluations of ovarian tumor vasculature. During the third year of Fellowship, the Fellow is given increasing responsibilities commensurate with his surgical knowledge, and is able to perform many aspects of radical surgery independently.

Over the past five years, a yearly average of the following procedures have been performed on the Gynecologic Oncology Service.

Central venous access procedures	50-60
Radical hysterectomy with pelvic lymphadenectomy	25-30
Extrafascial hysterectomy with para-aortic lymph node sampling	90-100
Radical vulvectomy with inguinal lymphadenectomy	15-20
Tumor debulking	40-50
Small bowel resection	15-20
Large bowel resection	10-15
Colostomy	20
Ureteroneocystotomy	1-2
Pelvic exenteration with ileal loop/continent vesicostomy	5-10

During 1-2 months of each Fellowship year, the didactic session of the weekly Tumor Conference is devoted to a thorough discussion of Gynecologic Pathology. These lectures are presented by members of the Department of Pathology, Gyn Oncology, Immunology, and Molecular Genetics. Additional instruction in Gynecologic Pathology is provided by review of the Armed Forces Institute of Pathology and American Society of Clinical Pathology slide collections. During the second and third Fellowship years, Fellows are responsible for reviewing the slides of all biopsy and surgical specimens of patients on the Gynecologic Oncology Service with Dr. Cibull or members of the Surgical Pathology Division at a weekly Pathology Conference.

The Fellow is taught the principles of intensive care medicine throughout the Fellowship. This includes regular reading assignments in critical care textbooks as well as clinical management responsibilities for patients with gynecologic cancers who require intensive care. During two months of the second and third Fellowship years, the Fellow also makes daily rounds with the attending physicians on the Intensive Care Service. During this rotation, the principles of intensive care medicine, cardiopulmonary monitoring, and ventilator management are reviewed.

Radiation therapy is given to over ~150 patients with gynecologic malignancy annually in the Radiation Oncology Center. This center has 11 MEV and 18 MEV linear accelerators, as well as a dedicated implant facility for the use of high dose brachytherapy in patients with cervical cancer. The principles of radiation therapy are taught throughout the second and third years of the Fellowship. The Fellow attends weekly radiation dosimetry conference where treatment planning and optimal methods of radionuclide application are discussed for each patient. In addition, members of the Radiation Therapy faculty attend weekly Gynecologic Oncology Tumor Conference where treatment options are discussed for all patients on the service. During the first two years of Fellowship, the Fellow assists members of the Radiation Therapy faculty in performing implants for patients with gynecologic cancer. During the third year of Fellowship, the Fellow performs all types of interstitial and intracavitary therapy with the Radiation Therapy faculty. All patients with gynecologic cancer who require inpatient therapy are admitted to the Gynecologic Oncology Service. Many patients are now treated by chemo-radiation according to Gynecologic Oncology Group (GOG) and institutional protocols.

The Fellow is taught principles of chemotherapy by the Gynecologic Oncology faculty during all years of the Fellowship. Didactic material is provided which includes mechanisms of action of chemotherapeutic agents, pharmacokinetics, drug metabolism and excretion, optimal administration strategies, and drug side effects. All chemotherapy, including that for ovarian

cancer, endometrial cancer, sarcomas, trophoblastic disease and recurrent cervical carcinoma is performed on the Gynecologic Oncology Service. During the past year, over 40 patients were placed on institutional or GOG protocols. Fellows always participate in the development of ovarian screening algorithms, as well as adjuvant methods to increase the positive predictive value of sonography in detecting ovarian malignancies. The Fellow attends all meetings of the Gynecologic Oncology Protocol Committee and during the second year of Fellowship, participates in protocol design for patients on institutional protocols. All patients on Gynecologic Oncology protocols are monitored by a full-time protocol nurse. Outpatient chemotherapy is performed daily in the Markey Cancer Center. Approximately 30-35 patients receive outpatient chemotherapy each week. The Fellow is instructed as to the principles of outpatient chemotherapy, and maintenance of central venous access devices in this facility.

Following therapy, patients are seen at regular intervals in three weekly follow-up clinics attended by faculty members, Fellows, and residents. Patient follow-up is coordinated by a full-time Gynecologic Oncology Tumor Registrar and is carried out in cooperation with local county health offices and local representatives of the American Cancer Society. Data concerning protocol management and follow-up status is also maintained in the computerized Cancer Information Service located in the Markey Cancer Center. Each Fellow is instructed as to the use of tumor registries and mechanisms to attain optimal patient follow-up.

Throughout the fellowship program, each Fellow is expected to participate in ongoing basic and clinical research projects. Basic research in Gynecologic Oncology is performed in the University of Kentucky Health Sciences Research Building under the supervision of Charles Lutz, Ph.D. and Edward J. Pavlik, Ph.D. in the Division of Gynecologic Oncology. Areas of basic research include (1) expression of molecules that may be important in cancer immunosurveillance; (2) identification of biomarkers in epithelial ovarian cancer, and (3) identification of proteomic patterns in the cyst fluid and sera of patients with benign and malignant ovarian tumors.

During the early part of the first year, each Fellow discusses research options with Dr. Pavlik, Dr. Lutz, the Program Director, and faculty members of the Division of Gynecologic Oncology. Each Fellow participates in research projects during all three years of the Fellowship, and is expected to present and publish the results of this research. Dr. Modesitt and Dr. van Nagell meet with each Fellow at monthly intervals to discuss the progress of ongoing research projects. Each Fellow attends 1-2 national oncology meetings annually, and during the past 5 years, all Fellows have presented papers at the Society of Gynecologic Oncologists national meeting.

Research Facilities

Basic research in the Division of Gynecologic Oncology is performed in laboratories in the Combs Research Complex. During the past three years (2002-2005), Gynecologic Oncology Fellows have worked in a Molecular Genetics Laboratory in the Combs Cancer Center under the direction of Steve Zimmer, Ph.D. Each Fellow spends the majority of the first Fellowship year working in one of these laboratories, and continues to participate in ongoing basic and clinical research projects during the second and third Fellowship years. Initially, the Fellow is a co-investigator in an established project but will often participate in the design of research projects in the second and third years of Fellowship. Clinical protocol research is under the direction of Drs. Fred Ueland and Susan Modesitt, and is coordinated through a full-time protocol research assistant, Michele Hughes. The Fellow attends all meetings of the Gynecologic Oncology Protocol Committee and participates in the design of prospective clinical trials. A major area of clinical research at the University of Kentucky is the Ovarian Cancer Screening Program. This program has been in operation since 1987 and has provided screening to over 25,000 asymptomatic women. Fellows are exposed to all aspects of this program including eligibility criteria, screening algorithm design, the principles of transvaginal sonography, Doppler flow sonography, serum marker evaluation, proteomics pattern evaluation, and statistical evaluation of screening data.

IX. Current Research Projects

1. "Transvaginal Sonography As a Screening Method in Ovarian Cancer". van Nagell, J.R., Jr. The Telford Foundation - \$142,000/yr
2. "Early Detection of Ovarian Cancer Through Screening". van Nagell, J.R. Kentucky State Legislature. \$100,000/yr
3. "Early Detection of Ovarian Cancer". van Nagell, J.R., Jr. The Abercrombie Foundation. \$75,000/yr
4. "Ovarian Minimally Invasive Diagnostics". Ueland, F.R. University of Kentucky Medical Center. 131,000/yr
5. "Ovarian Cancer Screening Outreach Program". van Nagell, J.R., Jr., Kentucky State Legislature \$775,000/yr
6. "Prognostic Factors in Stage IC Endometrial Cancer". Modesitt, S.C., University of Kentucky Medical Center. \$50,000/yr
7. "Proteomics in Ovarian Cancer. Ladies for Life Foundation. \$150,000/yr.

X. ADMINISTRATIVE SERVICE

J. R. van Nagell, Jr., M.D.

1. Institutional

A. Selected Committees

O.R. Committee, 1980-present
Internal Advisory Committee-Markey Cancer Center, 1985-present
Selection Committee - Otis A. Singletary Scholars, 1986-present
Chancellor's Advisory Committee – 2000-present

B. Board of Directors

Ephraim McDowell Cancer Network, 1975-1987
Council of Supervisors-University Hospital, 1979-1986
University of Kentucky Athletics Association, 1986-2002

2. National

Cancer Liaison Representative, American College of Surgeons, 1978-present
Examiner, American Board of Obstetrics and Gynecology, Division of Gynecologic Oncology
Secretary-Treasurer, Society of Gynecologic Oncologists, 1987-1990
Representative, National Coalition for Cancer Research, 1987-1990
Executive Committee, Society of Gynecologic Oncologists, 1990-1993
President, Society of Gynecologic Oncologists, 1994
Chairman, Nominating Committee, Society of Gynecologic Oncologists, 1995
Member, Board of Directors, Gynecologic Cancer Foundation, 1994-present

3. International

United Kingdom Clinical Cancer Trials – Consultant, 2002-present

4. Editorial Reviewer

American Journal of Obstetrics and Gynecology
Obstetrics and Gynecology
Cancer Research
Journal of the National Cancer Institute
Gynecologic Oncology
Cancer
International Journal of Oncology

Editorial Boards

Gynecologic Oncology
Cancer

5. Honors

Alpha Omega Alpha
American Cancer Society Professor of Clinical Oncology
America's Top Doctors – 2001-present
CREOG National Faculty Award for Excellence in Education

Paul D. DePriest, M.D.

1. Institutional

A. Selected Committees

University of Kentucky Medical School Admissions Committee, 1992-1995
Ob/Gyn Task Force Committee, 1992-1995
Robert W. Johnson Steering Committee, 1991-1995
Surgical Acting Internship Task Force, 1991-present
Resident Rotation Committee, 1991-present

B. Associate Director, Residency Program, 1992-2001

C. Vice Chairman, Department of Obstetrics and Gynecology – 1999-2001

D. Interim Chairman, Department of Obstetrics and Gynecology – 2001-2002

E. Associate Chief of Staff, Department of Obstetrics and Gynecology – 2001-present

F. Surgical Medical Director, Operating Room Services, 2004-present

G. Assistant Chief Medical Officer, University of Kentucky Medical Center, 2004-present

2. National

New Member Orientation Task Force, Society of Gynecologic Oncologists, 1994

Program Committee, Society of Gynecologic Oncologists, 1996-1997

Chairman, Data Safety Monitoring Committee NCI Pilot Study of Ovarian Cancer Screening

3. Editorial Reviewer

Cancer
Obstetrics and Gynecology
Gynecologic Oncology
JAMA

4. Honors

Resident Teaching Award – 1988

APGO Award – 1992

Best Poster Award – Society of Gyn Oncologists - 1992

Fred R. Ueland, M.D.

1. Institutional

- A. Selected Committees
 - Residency Committee, Ob/Gyn
 - KMSF Contracts Advisory Committee
 - IRB Protocol Review Committee
 - SDS Surgery Committee
 - Principal Investigator, Gynecologic Oncology Group, 2001-present
- B. Director, Kentucky Urodynamics Center
- C. Director, Minimally Invasive Diagnostics for Ovarian Cancer

2. National

Principal Investigator, Gynecologic Oncology Group, 2001-present

3. Editorial Reviewer

Kentucky Board of Medical Licensure, Reviewer
Gynecologic Oncology

Susan C. Modesitt, M.D.

1. Institutional

- A. Selected Committees
 - Obstetrics and Gynecology Committee for Medical Student Education
 - Obstetrics and Gynecology Committee for Resident Education
 - Physician Order Entry Focus Committee

2. National

Candidates Task Force, Society for Gynecologic Oncologists

3. Editorial Reviewer

Obstetrics and Gynecology
Gynecologic Oncology
Mauritas - American Family Physician

4. Honors – (recent)

- 1. APGO Excellence in Teaching Award – 2005
- 2. Bridging Interdisciplinary Research Careers in Woman's Health (BIRCWH) Scholar – 2004-present

Christopher P. DeSimone, M.D.

1. Institutional

- B. Selected Committees

Minimally Invasive Surgery Committee
Member Kentucky Cervical Cancer Prevention Committee

2. Editorial Reviewer

Obstetrics and Gynecology
Gynecologic Oncology

5. Honors – (recent)

1. Excellence in Resident Education Teaching Award – 2001
2. *Scholar-In-Training Award* (99th Annual Meeting of the American Association for Cancer Research – 2003
3. Speaker at 37th Annual Meeting of the Society of Gynecologic Oncologists - 2006

Edward J. Pavlik. Ph.D.

1. Institutional

A. Selected Committees

Markey Cancer Center Research Committee - 1991-present

2. Editorial Reviewer

Endocrinology
Journal of National Cancer Institute
Journal of Biological Chemistry
International Journal of Cancer
Biochemistry

3. National

Department of Defense Reviewer: Ovarian Cancer Section