THE AMERICAN BOARD
OF OBSTETRICS
AND GYNECOLOGY, INC.

GENERAL AND SPECIAL REQUIREMENTS
FOR GRADUATE MEDICAL EDUCATION
IN THE SUBSPECIALTY AREAS OF

GYNECOLOGIC ONCOLOGY,

MATERNAL-FETAL MEDICINE,

AND

REPRODUCTIVE ENDOCRINOLOGY
AND INFERTILITY

The American Board of Obstetrics & Gynecology
The Vineyard Centre
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First in Women’s Health

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I. GENERAL REQUIREMENTS

A. INTRODUCTION

1. Subspecialty fellowship training programs must be designed to ensure the education and training of physicians who can improve the health care of women and provide leadership for the specialty and the respective subspecialty of obstetrics and gynecology. Each program must have facilities and faculty sufficient to provide its fellows with the requisite investigative and scholarly skills to prepare candidates for a career in academic medicine, in addition to the clinical requirements. A subspecialty program must have special facilities, services, and personnel. Program faculty of such programs also must provide opportunities for fellows to gain, in graduated fashion, increasing knowledge, skills, and responsibility in the subspecialty field sufficient to permit them to function as independent consultants.

2. Within an institution, the activities of the subspecialty fellows and residents in obstetrics and gynecology must be clearly and separately identified. Subspecialty programs and the residency program must complement and enrich one another and must not exist in competition with each other.

B. FELLOWS

1. Fellows must be enrolled full-time for the minimum requirement of the program. A fellow beginning a program in any one of the subspecialty areas and seeking eligibility to take the examination for certification of
special qualifications must have satisfactorily completed an obstetrics and gynecology residency that is accredited by the American Council for Graduate Medical Education (ACGME), or the Council of the Royal College of Physicians and Surgeons of Canada (CRCPSC), and have acquired basic knowledge and skills in obstetrics and gynecology.

2. A candidate entering an approved subspecialty fellowship must make application to the American Board of Obstetrics and Gynecology, Inc. at least ninety (90) days prior to starting the fellowship using the form provided by the Board.

3. **Certification.** Eligible candidates will be accepted for the written examination only if they have been registered with The American Board of Obstetrics and Gynecology, Inc. throughout the period of fellowship training, have satisfactorily completed at least 32 months of a 36-month training program and have provided documentation of satisfactory completion of the two required graduate courses. The certification process for all candidates will be identical.

4. In order to receive subspecialty certification in any subspecialty, eligible candidates must have passed both the written and oral examinations for certification in Obstetrics and Gynecology by The American Board of Obstetrics and Gynecology. It is recommended that contact with the broad aspects of obstetrics and gynecology be continued throughout the fellowship, including such mechanisms as participation in lectures, conferences, or night and weekend call. No more than 10% of the fellow's time, however, may be spent performing duties unrelated to the subspecialty.

**C. PROGRAMS**

1. Institutions must apply for approval for the fellowship program which at least meets the minimum requirements of the respective subspecialty. Fellows who enter a fellowship program must satisfactorily complete at least three years of training to be eligible to take the written examination of the respective subspecialty division of The American Board of Obstetrics and Gynecology, Inc.

2. In order to be approved, every subspecialty program must have a written statement of the educational objectives for the fellows in that program. Examples of such objectives are set forth in the *Guide to Learning* in Gynecologic Oncology, Maternal-Fetal Medicine and Reproductive
Moreover, educational objectives should be described in enough detail to identify the unique characteristics of the program. Availability of programs such as a Masters in Public Health, a Clinical Research Training Program, special experiences in genetics, intensive care, etc., should be cited.

3. To establish a new fellowship program, an application and a site survey must be completed before approval may be given. The application must be signed by the fellowship program director, division director (if other than the program director), the chair of the department of obstetrics and gynecology, and comparable authorities from each additional participating institution or facility. The application must be made on a current form obtained from the office of The American Board of Obstetrics and Gynecology, Inc., and the form must be submitted at least one year in advance of the proposed start of the new program.

4. Approved programs will be reviewed periodically, but not less frequently than every five years. Review for continued approval requires a new application and an on-site survey. The deadline date for the reapplication and the date for the program survey will be sent to the program director at least 90 days in advance. Notification of action by the subspecialty division will include an anticipated duration of approval; however, based on information provided to the division, an earlier survey may be scheduled. If there are any significant changes in the program (change in the number of fellowship positions, program director, division director, key faculty members, patient volumes and procedures, closure of major research programs, or changes in clinical sites), the Board must be notified within 60 days of the change. Such changes may require submission of a new application and review. Any temporary increase in the number of fellows requires prior written approval by the division. Any permanent change in the number of fellows requires prior written approval by the division, and this action may require a new application for approval.

5. Programs with no active fellows will not be reviewed. Moreover, accreditation for such programs will be withdrawn automatically if no ACGME or CRCPSC graduate fellows have been enrolled from the program for three consecutive years.

6. Every program is required to submit an annual fee and a report which includes a list of current faculty and enrolled fellows. If the fee and report are not received within 30 days of the due date, accreditation for the
program will be withdrawn. These notices and reports may serve as the
basis for modification of the date of required reapplication and review. If
review of a program requires a specialist site visit, the travel expenses
and per diem of the site visitors must be paid by the institution having the
site visit.

7. A program will be approved for a specific number of fellows at each level.
Any individual in an institution assigned to a position in a fellowship who
has clinical or research duties similar to fellows must be included in the
reports of the number of fellows for that institution, and this number shall
not exceed the approved number without specific prior written approval
from the division; however, as long as the total number of fellows
approved for a specific program does not change, a program director may
change the complement of fellows by one (1) in any year. The minimum
number of fellows in a program requires consideration. Fellowship
programs with a planned complement of only one fellow in total, may not
sustain the critical mass necessary to keep the program vital. There
must be the potential for development into a program with at least one
fellow every other year at each level. The education of fellows must
permit progressively greater clinical responsibility and must not vary
significantly from one fellow to another in the same program without prior
written approval of the subspecialty division of The American Board of
Obstetrics and Gynecology, Inc.

8. Programs requesting a one-time increase above their approved number
of fellows will need to provide:
   a. a block diagram of all fellows’ schedules incorporating the additional
   fellow;
   b. an updated fellowship program surgical case log of the most recent 12
      months (with the exception of MFM and REI); and
   c. an educational justification for the increase.

9. Performance of a fellowship program is evaluated on the basis of (a) the
performance of the fellows on the written and oral certification
examinations given by the division, (b) completion of a thesis by each
fellow, and (c) the continued academic productivity of the current faculty
members. To this end, there must be evidence that the fellowship
program has on-going strong scholarly activity and productivity in clinical
and laboratory research. Such evidence must be provided in each year’s
Annual Report by listing the publications and presentations by faculty and
fellows at regional, national or international scientific meetings.
10. **Research Training.** Graduate education programs must be designed to provide research experience for the fellow while satisfying the basic training objectives outlined in the curriculum. A detailed curriculum that describes both the clinical and research training will require approval by the Subspecialty Division of The American Board of Obstetrics and Gynecology, Inc., prior to implementation. The overall research goals and objectives must be defined in the institutional application which can be obtained by requesting such an application form from the Board office.

These must include:

a. the opportunity for structured basic laboratory and/or clinical research, and the development of additional clinical skills;
b. enhancement of the fellow's understanding of the latest scientific techniques and encouragement of interaction with other scientists;
c. promotion of the fellow's academic contributions to the subspecialty;
d. enhancement of the opportunities for fellows to obtain research funding and academic positions; and
e. furthering the ability of the fellow to be an independent investigator.

Fellow research rotations must be in monthly blocks and no more than 10% of a fellow's time can be devoted to non-research clinical activities during block rotations. Additionally, a specific faculty member (mentor) must be assigned or chosen by a fellow to direct the fellow's research efforts.

All Subspecialty Divisions and Committees of the American Board of Obstetrics and Gynecology, Inc. encourage the combination of fellowships with graduate degrees, such as a Masters of Public Health, or a fellowship with a focused interest in genetics, infectious disease, etc. The design and implementation of these programs must, however, be approved in advance by the specific Subspecialty Division or Committee.

Fellows may remain in their institution for longer periods of time to pursue additional research. This does not require Board approval; however, the Board must be notified of this decision. This option must not detract from the experience of fellows in the core program.

In selecting from among qualified fellowship applicants, it is strongly suggested that programs participate in an organized matching program, such as the National Resident Matching Program (NRMP) Specialty Match Service. Matching programs are sponsored by the fellowship program directors through the respective subspecialty societies (the American Society for
Reproductive Medicine and the Society for Reproductive Endocrinology and Infertility, the Society for Gynecologic Oncologists, the Society for Maternal Fetal Medicine, and the American Urogynecologic Society). Participating fellowship programs should comply with all terms and conditions of the match agreement.

D. PROGRAM DIRECTOR

1. The program director must have:

   a. been certified in their subspecialty;
   b. a minimum of five years' experience after completion of fellowship training;
   c. evidence of scholarly accomplishments;
   d. demonstrated evidence of continued academic productivity such as publications in refereed journals, receipt of national or international honors, and membership and participation in scientific societies, national committees, editorial boards, etc.;
   e. a full-time faculty appointment or be "geographically" full-time in the primary institution offering the fellowship program; and
   f. direct responsibility for the appropriate education of fellows enrolled in the program and must be actively engaged in the care of patients in the subspecialty.

2. The program director is responsible for ensuring that each fellow in the program completes an application for registration in that fellowship. The program director also is responsible for assuring that each fellow in the program is actively pursuing a research program which will result in the completion of a thesis which may be utilized in the certification process, and that the fellow is assigned or selects a research mentor (see I.C.9. above). The program director and division faculty are responsible for the written evaluation of the fellows progress at no less than a six-month interval.

3. The program director must file an Annual Report with The American Board of Obstetrics and Gynecology, Inc. The forms and dates for submission may be obtained from the Board office. The program director must notify The American Board of Obstetrics and Gynecology, Inc. of any anticipated substantive changes in the fellowship program within 60 days of the changes (see I.C.4).
E. OTHER PROGRAM FACULTY

1. In addition to the program director for Gynecologic Oncology, Maternal-Fetal Medicine and Reproductive Endocrinology & Infertility, there must be at least one other full-time program faculty member who is certified by The American Board of Obstetrics and Gynecology, Inc. in the respective subspecialty. Programs may continue for a maximum of two years with only one ABOG subspecialty certified faculty member, and the program will be allowed to continue to enroll fellows. If the director leaves and the only Board-certified faculty members remaining do not meet the requirements for assuming the directorship, a two-year time limit will apply for program continuation. Programs that have only one subspecialty certified faculty member or faculty members who are not eligible to be the program director will be placed on probation in the second year. The program is required to notify enrolled fellows and applicants of probationary status which occurs for this, or any, reason. If the program fails to meet the requirements for twenty-four (24) months, accreditation for the program will be withdrawn automatically.

2. Some of the faculty must be actively engaged in clinical and/or basic research. The numbers of clinical and basic science faculty may vary among institutions. It is expected, however, that some program faculty who are clinicians will have special areas of active clinical and/or basic science investigation. Such evidence must be provided in each year’s Annual Report by listing the publications and presentations by faculty and fellows at regional, national, or international meetings. The number of Ph.D. investigators, with primary or secondary involvement in the fellowship program may vary among institutions and may change periodically within institutions depending upon the research interest of the faculty and fellows. The sequence of integration of research and clinical training in fellowship programs may vary among different programs.

F. CURRICULUM

1. Education of fellows must be accomplished through clinical experiences and regularly scheduled teaching conferences, seminars and didactic instruction in both basic science and clinical aspects of the subspecialty. These conferences must be directed at the fellows and conducted at a fellowship level. Attendance at other conferences devoted to medical students and residents, as well as Grand Round topics is encouraged, but such conferences are not a substitute for fellow-specific conferences.
The fellow's schedule and responsibilities must be structured to allow regular attendance at these conferences.

2. **Clinical.** A sufficient number of teaching rounds, including reviews of patient care, must be organized and conducted by qualified faculty at regular intervals. The clinical experience of inpatient and outpatient care must include a sufficient number and variety of cases to fulfill the educational objectives of the *Guide to Learning*. There must be a rotation schedule which conforms to the block diagram in the application submitted for program approval. Outpatient experience is particularly important and must be carefully organized and closely supervised by the clinical faculty. The fellow must be capable of performing all appropriate diagnostic and therapeutic procedures relevant to the clinical practice of the subspecialty. The fellow must play a major role in decisions affecting patient management and participate in a program constructed to allow continuity of patient care. During the course of the educational program, the fellow should be supervised in clinical activities and faculty consultation should be available to the fellow at all times.

3. **Research.** The fellowship program director must provide evidence of strong scholarly activity and productivity by faculty and fellows in clinical and/or laboratory research. Within the fellowship curriculum, there must be time allocated for research objectives. Additionally, time must be reserved for clinical activities, including surgery. Research projects can be developed either within the department or in collaboration with other academic departments.

4. Familiarity and experience in clinical and laboratory research is an important part of fellowship training. The ability to carry out a research plan, to interpret the results, and to demonstrate facility with the scientific method, is critical. The structure of the research program will require a faculty research training director, or *mentor*, whose role will be different from that of the program director (although this may be the same individual). There must be appropriate supervision by the *mentor*, and sufficient opportunity to develop a research project. The fellow is expected to conceptualize a question or hypothesis and to formulate a strategy to answer the question. This step must be followed by appropriately supervised experiments and statistical analysis as outlined under the thesis instructions (see Addendum A). The portion of each fellow's education devoted to research must ultimately result in a thesis that may be worthy of publication in a peer-reviewed journal. It is expected that each fellow will acquire a thorough knowledge and
understanding of the methodologies and analyses used in research protocols that relate to research in their subspecialty. An in-depth understanding of the statistical analysis of research projects is mandatory.

5. There also should be progressive involvement by the fellow in research so that the fellow develops the skills to continue to conduct independent research.

6. **Graduate Courses.** A fellowship program must include two university graduate-level courses, one in quantitative techniques including biostatistics and other areas such as epidemiology and research design and implementation. The second course must be relevant to the specific subspecialty. Both courses must be approved by the respective Subspecialty Division or Committee of The American Board of Obstetrics and Gynecology, Inc. If either course is listed in a university catalogue, the description in the catalogue may be submitted for approval. If a course is not listed in a university catalogue, the entire curriculum and the credentials of the instructor must be submitted. These courses must be completed satisfactorily, concluding with an examination and documentation of a passing grade. Attendance at continuing education courses, or short, single-topic courses sponsored by various organizations, is not sufficient to meet the requirement of university graduate-level courses.

7. **Thesis.** All fellows must produce a thesis as first author. The thesis need NOT have been published or accepted for publication when used in an application for the oral examination. In fact, acceptance of the thesis for publication by a refereed journal does not guarantee acceptance of the thesis by the Subspecialty Division of The American Board of Obstetrics and Gynecology, Inc. for purposes of the oral examination. It is the program director’s responsibility to provide the conditions for fulfilling this requirement and to assist the fellow in reaching this objective by the end of the fellowship. It is required that the fellow actually perform the research, and the fellow is expected to defend the thesis at the time of the oral examination (see Addendum A).

**G. Duty Hours and Work Environment**

1. Providing fellows with a sound academic, research and clinical education must be carefully planned and balanced with concerns for patient safety and fellow well-being. Each program must ensure that the learning
objectives of the program are not compromised by excessive reliance on fellows to fulfill service obligations. Didactic and clinical education and research must have priority in the allotment of fellows’ time and energies. Duty hour assignments must be consistent with the fact that faculty and fellows collectively have responsibility for the safety and welfare of patients.

2. Fellowship training programs are expected to be in compliance with the current ACGME Resident Duty Hours requirements and local Graduate Medical Education duty hours requirements. A Division or Committee may grant exceptions for up to 10% of the 80-hour limit in duty hours to individual programs based on a sound educational rationale. Prior permission of the institution’s Graduate Medical Education Committee is required before such a request will be considered by the ABOG.

3. Duty hours include all clinical and academic activities related to the fellowship program, i.e., patient care (both inpatient and outpatient), administrative duties related to patient care, the provision for transfer of patient care, time spent in-house during call activities, and scheduled academic activities such as conferences. Duty hours do not include reading and preparation time spent away from the duty site.

   a. Duty hours must be limited to 80 hours per week, averaged over a four-week period, including all in-house call activities.

   b. Fellows must be provided with one (1) day in seven (7) free from all educational and clinical responsibilities, averaged over a 4-week period, inclusive of call. One day is defined as one continuous 24-hour period free from all clinical, educational and administrative activities.

   c. Adequate time for rest and personal activities must be provided. This should consist of a 10-hour time period provided between all daily duty periods and after in-house call.

4. On-call activities are to provide fellows with continuity of patient care experiences. In-house call is defined as those duty hours beyond the normal work day when fellows are required to be immediately available in the assigned institution.

   a. In-house call must occur no more frequently than every third night, averaged over a four-week period.
b. Continuous on-site duty, including in-house call, must not exceed 24 consecutive hours. Fellows may remain on duty for up to six additional hours to participate in didactic activities, transfer care of patients, conduct outpatient clinics and maintain continuity of medical, surgical or obstetrical care.

c. No new patients may be accepted after 24-hours of continuous duty, except in outpatient clinics. A new patient is defined as any patient for whom the fellowship service or department has not previously provided care.

d. At-home call (pager call) is defined as call taken from outside the assigned institution.

e. The frequency of at-home call is not subject to the every third-night-limitation; however, at-home call must not be so frequent as to preclude rest and reasonable personal time for each fellow. Fellows taking at-home call must be provided with one (1) day in seven (7) completely free from all educational and clinical responsibilities, average over a 4-week period.

f. When fellows are called into the hospital from home, the hours spent in-house are counted toward the 80-hour limit.

5. Moonlighting

a. Because fellowships are a full-time endeavor, the fellowship director must ensure that moonlighting does not interfere with the ability of the fellows to achieve the goals and objectives of the program.

b. The fellowship director must comply with the sponsoring institution’s written policies and procedures regarding moonlighting, in compliance with the ACGME Institutional Requirements.

c. Moonlighting that occurs within the fellowship and/or the sponsoring institution’s primary clinical site(s), i.e., internal moonlighting, must be counted toward the 80-hour weekly limit on duty hours.
H. FACILITIES

1. In addition to patient volume and patient diversity, facilities are critical in order to meet the objectives of the educational program. An educational program in Gynecologic Oncology, Maternal-Fetal Medicine or Reproductive Endocrinology & Infertility must be affiliated with a medical school and be an integral part of a department of obstetrics and gynecology. This department must also contain an accredited residency program in obstetrics and gynecology. The program must function with the approval, but not necessarily under the direction, of the chairman of the department.

2. A fellowship program may utilize more than one patient facility. If more than one site is used, there must be at least one physician qualified in the subspecialty at each site, or similarly qualified faculty of the program must be assigned for on-site supervision of fellows during their training at these sites.

3. Assignment of fellows to other institutions or hospitals can be approved on an individual basis. For this to occur, the fellowship program must have a formal agreement with each institution or hospital. Such formal agreements must include stated responsibility of each institution, the anticipated experience of the fellow and the evaluation process which will be used to measure the fellows progress.

4. Operating rooms, labor and delivery and ambulatory care facilities must be available for the care of patients on a regularly scheduled basis and must always be available on an emergency basis for the management of complications. The complexity of care required for these patients makes it necessary that there be available, recovery rooms, intensive care units, blood banks, diagnostic laboratories and imaging services.

5. The medical records systems must be designed so that individual records are readily available for patient care and clinical research. The institution must have a comprehensive medical library. Fellows should have access to computerized literature searches. Such libraries should contain a wide variety of current text books and clinical and basic science journals, including those relevant to the subspecialist.

6. The program must have access to clinical and laboratory research facilities which are adequate in size and appropriately equipped to conduct the research training of the fellows.
II. SPECIAL REQUIREMENTS: GYNECOLOGIC ONCOLOGY

A. INTRODUCTION

A gynecologic oncologist is a subspecialist in obstetrics and gynecology who, by virtue of education and training, is prepared to provide consultation and comprehensive management of patients with gynecologic cancer and whose activity includes the practice of gynecologic oncology in an institutional setting wherein all the major effective forms of cancer therapy are available. Comprehensive management includes those diagnostic and therapeutic procedures necessary for the total care of a woman with gynecologic cancer and complications resulting therefrom.

B. FELLOWS

1. Fellows must acquire experience in the management of gynecologic cancer and its complications, including radical operations performed on the reproductive organs, and in surgical procedures of the gastrointestinal and urinary tracts, including intestinal resection and bypass and urinary diversion and bypass. Fellows must acquire experience in dissection of inguinal, pelvic, periaortic lymph nodes and become acquainted with plastic reconstructive operations required for restoration of function in women treated for gynecologic malignancy. Instruction in the diagnosis and management of disorders of the breast must be included. Fellows must acquire experience in adjunctive procedures required in these patients such as cystoscopy, sigmoidoscopy and placement of deep venous catheters. Since these educational processes will overlap with the training of residents in surgery and urology, there must be a clear understanding of how the training is to be accomplished. Fellows must receive experience in total parenteral nutrition and in the critical care of the gynecologic oncology patient.

2. Fellows must be formally instructed in the methods and techniques of radiation therapy. Fellows also must participate in the management of patients receiving all forms of these treatments. There must be an opportunity provided for fellows to acquire an understanding of the principles of radiobiology and radiation physics through courses of instruction. Fellows must develop these capabilities by participation as a member of the team which decides the course of treatment, plans radiotherapy and applies radioactive materials. Training need not be of a degree to qualify the fellow to work as an independent radiotherapist.
3. Fellows must acquire basic and clinical knowledge about the mechanism(s) of action, side effects, advantages and disadvantages of agents used in cancer chemotherapy (see II.E.2). They also must have practical experience in the administration of such drugs and in the recognition and management of complications that may result from the use of such agents.

C. PROGRAM

1. Graduate educational programs in gynecologic oncology should provide fellows with broad and thorough exposure to women with gynecologic malignancies and with appropriate experience in the use of modern diagnostic and therapeutic methods. The objectives are to improve the health care of women with neoplastic diseases of the reproductive organs by:

   a. elevating standards of education and training relating to gynecologic oncology;

   b. enhancing the recruitment of qualified physicians to this subspecialty;

   c. improving the organization and distribution of patient care; and

   d. increasing medical knowledge and thereby improving the treatment of women with gynecologic cancer.

2. **Three-year Fellowship.** All gynecologic oncology fellowship programs must be at least three years in duration. A minimum of 12 months is required for research/didactic efforts and a minimum of 24 months in clinical gynecologic oncology (see II.E.1-6. below). If additional time (in excess of the required 36 months) is utilized by a program, this time can be tailored to electives or focused in a specific clinical or research area at the discretion of the program director. This time is not considered fellowship education.

D. FACULTY

1. At least one radiotherapist must be readily available in the same institution as the gynecologic oncologist and must be prepared to provide not only necessary consultation for patient care but also formal instruction of fellows in the principles and techniques for all forms of radiation therapy. The radiotherapist must, therefore, be involved in an active
program of radiation therapy with modern equipment for teletherapy and sources for brachytherapy.

2. At least one pathologist, who is especially skilled in the areas of cytology and gynecologic malignancies, must be available for consultation and for instruction of fellows.

3. At least one individual competent in chemotherapy must be available. This individual may be a gynecologic oncologist or a subspecialist from some other discipline. The chemotherapist must be readily available for consultation and must provide formal instruction for the fellows in the principles, use and complications of chemotherapy.

4. Consultations must be readily available from all major clinical specialists and subspecialists. An active tumor registry must be present. This registry must provide timely reports of all patients with gynecologic malignancies seen at the institution. Such a registry should allow for regular review of accession and end results.

E. CURRICULUM

1. **Clinical.** Relevant areas which may be pursued include, but are not limited to, general surgery, colorectal surgery, vascular surgery, urologic surgery, medical oncology (including new techniques in chemotherapy such as bone marrow transplantation), epidemiology, biostatistics, radiotherapy, or additional experience in gynecologic cancer surgery. There must be sufficient operative procedures to develop the fellow's surgical skills. A detailed curriculum approved by the Division and sufficient clinical material will be required for approval of a clinical program. The major requirement will be that the clinical training of fellows in the two-year core curriculum not be diluted by this change since it is the maintenance of these high standards of training that permits a gynecologic oncologist to deal effectively with other surgical and medical oncological problems. The Division will continue close monitoring of the quality and quantity of clinical experience available to fellows with particular emphasis on procedures, including radical hysterectomy, radical vulvectomy, pelvic exenteration, urinary diversion, intestinal resection and bypass and colostomy. All fellows will continue to be trained in chemotherapy, irradiation therapy and the management of complications resulting from these treatments. Each fellowship program must have a method of identifying and reviewing case complications.
2. The educational program also must contain courses of instruction in basic clinical pharmacology as it is applied to cancer chemotherapy. The fellow must have experience and responsibility for selecting patients, choosing the proper anti-cancer drugs, administering treatment and caring for toxic side effects of such treatment. Experience in the use of these agents should prepare the fellow to employ them with confidence and skill.

3. The fellow must examine and evaluate a sufficient number of patients who have received all methods of treatment to develop the ability to assess the effects of treatment and to develop knowledge in the care of complications of therapy. The population of patients in the continuing care facility must be large enough for the fellow to become experienced in the follow-up and maintenance phase of patient care.

4. The program should provide the fellow practical experience in both gross and microscopic pathology. The fellow is expected to learn to diagnose gynecologic neoplasia and to relate pathologic findings to decisions for therapy and ultimately to prognosis.

5. Case lists and experience logs of each fellow's hospital experience are required to be kept on forms obtained from the Board. In order to maintain program approval, these forms must be submitted yearly by each fellow. These are due within one month of completing each year of training, and within one month of completing the fellowship. The program director must ensure that case lists and experience logs are submitted each July.

6. **Research.** The sequence of integration of research and additional clinical training in fellowship programs will vary among different programs. A total of twelve (12) months of protected research time is required for each fellow, and at least six (6) months of this time must be spent in one year.

F. **FACILITIES**

Appropriate education can be provided only in institutions which have appropriate facilities and in which an educational environment is maintained. There must be well-equipped diagnostic/therapeutic facilities available that will ensure the fulfillment of all educational requirements related to the fellowship program. This should include all diagnostic and therapeutic equipment necessary for the evaluation and management of patients with gynecologic malignancies. Sufficient inpatient and outpatient facilities must be available,
preferably in one geographic area, to accommodate the number of patients necessary for appropriate clinical training of all the fellows in the program. Operating rooms must be available for the care of relevant patients on a regularly scheduled basis, and operating rooms must always be available on an emergency basis for the management of complications. Consultation must be readily available from all major clinical specialties (see II.D.1-4 above).
III. SPECIAL REQUIREMENTS: MATERNAL-FETAL MEDICINE

A. INTRODUCTION

A maternal-fetal medicine subspecialist is an obstetrician/gynecologist who, by virtue of additional education, cares for and/or provides consultation for patients with complications of pregnancy. This requires advanced knowledge of obstetrical, medical and surgical complications of pregnancy and their effect on both the mother and the fetus. It also requires expertise in the most current approaches to diagnosis and treatment of patients with complicated pregnancies and practice in a setting in which such modalities are available. Advanced knowledge of newborn adaption also is necessary to ensure a continuum of excellence in care from the fetal to newborn periods.

B. FELLOWS

By virtue of satisfactory completion of a fellowship program in maternal-fetal medicine, the individual should be a subspecialist in obstetrics and gynecology capable of managing complex maternal-fetal health care problems and should be capable of scientific inquiry and critical evaluation. Such a person must be able to function as a consultant to obstetricians and other medical specialists. Following the completion of a maternal-fetal medicine fellowship program, the candidate is expected to continue to demonstrate dedication to the management of pregnancy abnormalities and academic pursuits. It is expected that graduates of maternal-fetal medicine fellowship programs will become certified in maternal-fetal medicine by The American Board of Obstetrics and Gynecology, Inc.

C. PROGRAM

1. The fellowship program must be designed to provide advanced training in the care of the pregnant woman and her fetus and in the use of advanced technical instruments and research skills. The purpose of the fellowship program, therefore, is twofold. First, the graduate of a fellowship program is expected to function as a subspecialist in maternal-fetal medicine. Second, the graduate of a fellowship program is expected to be trained in advanced clinical and/or basic research and, thus, capable of expanding the knowledge base of this subspecialty.

2. Each fellowship program must include the means to provide comprehensive care for maternal and fetal disorders and must include:
a. a high-risk pregnancy program;
b. a fetal evaluation program;
c. a newborn intensive care unit;
d. a genetics program;
e. an ultrasound unit;
f. a maternal critical care unit or area;
g. a pathology service with a qualified fetal and newborn pathologist; and
h. an obstetrical anesthesia service.

3. **Three-year Fellowship.** Maternal-Fetal Medicine fellowship programs are three years in duration. Within a fellowship program, the length of fellowship must be the same for each fellow. A minimum of 18 months of block time is required for research/didactic efforts, and a minimum of 12 months in clinical maternal-fetal medicine. The remaining 6 months may be tailored to electives or be focused in a specific clinical or research area at the discretion of the program director.

D. **FACULTY**

In addition to the faculty in obstetrics and maternal-fetal medicine, there must be faculty with special interest and expertise identified who participate in the care of patients and the education of fellows. These should include obstetrical anesthesiologists, neonatologists, geneticists and individuals with special interest or qualifications in critical care, fetal and neonatal pathology and infectious diseases. The presence of institutional training programs in these areas is beneficial, but not required. Although a variety of different types of relationships exist, there must be evidence of interaction between these groups and fellows which are mutually complementary.

E. **CURRICULUM**

1. **Basic Science.** The fellow must have a thorough understanding of the physiology and pathophysiology of diseases occurring in pregnancy. A knowledge of both normal and abnormal newborn physiology also is expected, so that there is a continuum of understanding which leads to improved care from the fetal through neonatal periods. An understanding of infectious diseases as it relates to pregnancy and the puerperium is essential. A knowledge of teratology and dysmorphology is important and may be attained by lectures and/or practical experiences. Education in maternal-fetal physiology and in pathophysiology may be attained through lectures, laboratory experiences and reading assignments, in addition to clinical experience.
2. **Clinical Training.** A minimum of 12 months of clinical training in core maternal-fetal medicine is required for each fellow. The fellow must demonstrate competence in the treatment of medical complications of pregnancy. There must be sufficient numbers and variety of obstetrical complications, as well as medical and surgical complications of pregnancy to provide appropriate clinical training. The fellow must be able to demonstrate a base of knowledge and experience sufficient to perform and/or interpret the following procedures:

   a. cesarean delivery;
   b. cesarean hysterectomy;
   c. sterilization procedures;
   d. cerclage of the cervix;
   e. operative vaginal deliveries, forceps and vacuum extraction;
   f. techniques for control of hemorrhage;
   g. neonatal intubation;
   h. fetal heart rate monitoring (antepartum and intrapartum);
   i. antepartum fetal assessment (biophysical profile,NST, etc.);
   j. amniocentesis performed in gestations less than 20 weeks;
   k. fetal scalp blood sampling;
   l. pulmonary artery catheterization;
   m. targeted maternal and fetal imaging using ultrasonography;
   n. pregnancy termination (except for fellows or programs with moral and/or ethical objections);
   o. invasive fetal diagnostic and therapeutic procedures;
   p. chorionic villus sampling;
   q. external cephalic version;
   r. external or internal version of second twin;
   s. management of shoulder dystocia; and
   t. vaginal delivery of multiple gestations.

3. **Research/Didactic Training.** A minimum of 18 months of protected time for research and graduate level course work is required for each fellow, during which no more than 10% time may be devoted to clinical activities. The sequence of integration of research/didactic experience with clinical training will vary among different programs. Course work which leads to an advanced degree (e.g., Master’s level) may be counted towards the minimum 18 months of required research/didactic training.
F. FACILITIES

The primary institution must have designated inpatient and outpatient facilities including ultrasound imaging facilities and support personnel for care of the mother, fetus and neonate. These must include an adequately equipped labor and delivery unit, facilities for antepartum and postpartum hospitalization. There must be an intensive care nursery with all necessary personnel and support services for the care of the neonate with complications, as well as the normal newborn.
IV. SPECIAL REQUIREMENTS: REPRODUCTIVE ENDOCRINOLOGY & INFERTILITY

A. INTRODUCTION

A reproductive endocrinologist is a subspecialist in obstetrics and gynecology who is capable of managing complex problems relating to reproductive endocrinology and infertility, and whose current professional activity involves the practice of reproductive endocrinology and infertility in a setting wherein essential diagnostic and therapeutic resources are available and being used appropriately.

B. FELLOWS

At the completion of a fellowship program in Reproductive Endocrinology and Infertility, the physician will be able to manage complex endocrine problems related to function of the reproductive system and to select and conduct appropriate therapies for the infertile couple. The fellow must understand endocrine assay methodology and principles of molecular biology and be skilled in laboratory techniques, clinical research design and statistical analysis. The fellow is expected to be proficient in the clinical diagnosis and in the surgical management of structural problems related to fertility and developmental abnormalities of the reproductive tract, as well as contemporary techniques involved in assisted reproductive technology. Having conducted investigative work leading to the production of a thesis, it is anticipated that the fellow will be capable of continued research endeavors and of preparation of research grants. Thus, by completion of a fellowship program, a fellow will have demonstrated progressive professional and intellectual growth.

C. PROGRAM

1. Graduate educational programs in reproductive endocrinology and infertility should be developed along the following guidelines to ensure a clinical and research experience consistent with the educational objectives of the Guide to Learning in Reproductive Endocrinology and Infertility. The apportionment of time must be constructed to achieve four major objectives including:

   a. experience in the management of a wide variety of clinical problems affecting the development, the function and the aging of the human reproductive system. This experience should include disorders related
to both men and women, as detailed in the *Guide to Learning in Reproductive Endocrinology and Infertility*;

b. adequate and diverse medical and surgical experience related to infertility and reproductive disorders (including management of ovulation defects and techniques of assisted reproduction, which must include an adequate number and success rate), contraception, aging, and the surgical management of acquired and developmental abnormalities of the reproductive tract;

c. knowledge of the techniques and limitations of various diagnostic, surgical, and laboratory procedures utilized in clinical reproductive endocrinology and infertility; and

d. a research experience centered around an intensive specific area of investigation that will provide a thesis for the fellow and also stimulate future independent study.

2. **Three-year Fellowship.** All reproductive endocrinology and infertility fellowship programs must be at least three years in duration. Within a fellowship program, the length of fellowship must be the same for each fellow. A minimum of 18 months is required for research/didactic efforts and a minimum of 12 months in clinical reproductive endocrinology/infertility. The remaining 6 months may be tailored to electives or be focused in a specific clinical or research area at the discretion of the program director.

D. **FACULTY**

Consultative services must be available in the areas of medical endocrinology, pediatric endocrinology and genetics. The presence of institutional training programs in these areas is beneficial, but not required. There also must be evidence of mutually complementary active and continuing interaction between these groups and the program's fellows. It is essential that another individual with special interest and expertise in the management of male infertility be associated with the program, and this person must provide formal education for the fellows and consultative care for male infertility patients.
E. CURRICULUM

1. Education in the basic science aspects of reproductive endocrinology and infertility is of singular importance and specifically must include the study of anatomy, biochemistry, pathology, physiology, molecular biology, cell biology, experimental design and statistics. Didactic instruction separate from the two required university courses should be provided in both the basic science and clinical aspects of reproductive endocrinology and infertility. The *Guide to Learning in Reproductive Endocrinology and Infertility* should be used to provide the foundation and scope of this instruction.

2. **Clinical.** Training in specialized surgical techniques including, but not limited to, endoscopy, microsurgery, oocyte retrieval and embryo transfer is a prerequisite to the development and enhancement of surgical skills. Direct hands-on experience with transvaginal ultrasound imaging techniques is considered to be an integral part of the training experience. The fellow must have direct experience in the interpretation of all imaging procedures and histological material available from surgical specimens.

3. **Laboratory.** In order to develop an appreciation for the scope and limitations of laboratory techniques, the fellow must become familiar with the relevant laboratory procedures in reproductive endocrinology and infertility. Each fellow should acquire a thorough understanding of the theory and special methodology utilized to perform hormonal assays, tissue culture techniques, receptor assays, molecular biological procedures, chromosomal analyses and gamete manipulation.

F. FACILITIES

The objectives of the educational program are facilitated by the presence of adequate facilities and adequate numbers of patients with a variety of reproductive disorders. Ambulatory facilities, including ultrasound imaging, must be available to ensure the presence of high quality care for women. The operating rooms must be equipped for endoscopic and microsurgical procedures. Laboratories equipped to conduct hormone assays, andrology testing and embryo culture must be available. The facilities also should be available to perform hysterosalpingography, computerized axial tomography, bone densitometry, and magnetic resonance imaging.
**ADDENDUM A: THESIS**

A thesis is required by each Division and Committee. Submission of an approved thesis is a requirement for entrance to the oral examination. The thesis need not have been published or accepted for publication upon submission for the oral examination.

1. The thesis must meet the instructions for authors for any one of the following journals: (1) *American Journal of Obstetrics and Gynecology*; (2) *The New England Journal of Medicine*; (3) *Fertility and Sterility*; or (4) *Obstetrics and Gynecology*. The format chosen must be clearly identified on the cover page of the manuscript, and as a rule, the total pages of the manuscript should not exceed thirty (30). The thesis must be submitted in type-written form, single-spaced, double-sided on standard 8 x 11 paper *(THIS INCLUDES PUBLISHED MANUSCRIPTS; REPRINTS ARE NOT ACCEPTABLE.)*. The applicant must be the sole or principal investigator and should be the only author listed on the manuscript (do not list co-authors, institutions, or acknowledgments). No more than one such article is to be submitted and pages must be numbered.

2. The subject should be clearly in the area of gynecologic oncology, or maternal-fetal medicine, or reproductive endocrinology and infertility.

3. The thesis must be on clinical or basic research and NOT a review of work by others. The work must have been performed during or subsequent to the fellowship period.

4. All research involving humans and animals must be reviewed and approved by the human or animal institutional review boards (IRB’s).

5. The thesis must be a scholarly effort that most often should consist of:
   a. an abstract (200-300 word concise statement of the work performed);
   b. an introduction outlining the pertinent background and reasons for doing the work, as well as, when appropriate, a testable hypothesis and a rationale for the hypothesis;
   c. a methodology section, including quality control of the methods used (for assays, this should also include precision, accuracy, sensitivity, and specificity) and a well-defined control group, as well as a reasonable number of observations;
d. an analysis of results with valid statistical methods;

e. pertinent discussion and significance of the study including an appropriate review of the literature and justification of the conclusion(s) reached;

f. a summary; and

g. references.

6. Book chapters, clinical case reports and descriptive series are not acceptable. Also, meta analysis reports are not acceptable.

7. During the oral examination, the candidate will be asked any one or all of the following questions; however, additional questions may be asked which are not listed in this outline.

a. Hypothesis
   1) What were the study objectives?
   2) What was the population studied?
   3) What was the population to which the investigators intended to apply their findings?

b. Design of the investigation
   1) Was the study an experiment, case control study, randomized clinical trial, planned observations, or a retrospective analysis of records?
   2) Were there possible sources of sample selection bias?
   3) How comparable was the control group?
   4) What was the statistical power of the study?

c. Observations
   1) Were there clear definitions of the terms used (i.e., diagnostic criteria, inclusion criteria, measurements made and outcome variables)?
   2) Were the observations reliable and reproducible?
   3) What were the sensitivity, specificity and predictive values of the methods?

d. Presentation of findings
   1) Were the findings presented clearly, objectively, and in sufficient detail?
   2) Were the findings internally consistent (i.e., did the numbers add up properly and could the different tables be reconciled, etc.)?
e. Analysis of the results
   1) Was the data worthy of statistical analysis? If so, were the methods of analysis appropriate to the source and nature of the data?
   2) Were the analyses correctly performed and interpreted?
   3) Were there sufficient analyses to ascertain whether "significant differences" might, in fact, have been due to a lack of comparability of the groups (i.e., age, sex, clinical characteristics, or in other relevant variables)?
   4) Was design of the study appropriate for solving the stated problems?
   5) Was there an improper use of statistical techniques?
   6) Was there mention of the type of test used or the significance level?
   7) Was there use of measured sensitivity without specificity?

f. Conclusions or summary
   1) Which conclusions were justified by the findings?
   2) Were the conclusions relevant to the hypothesis?

g. Redesign the study
   If the study could be improved, how would you revise the experimental design in order to provide reliable and valid information relevant to the questions under study?

h. Breadth and depth of subject matter
   Each candidate may be asked about references cited in their thesis. The candidate also will be judged based upon their knowledge of the literature related to the subject of their thesis.