Gynecology
Essentials of Clinical Practice

Third Edition

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Preface to the Third Edition

In the field of gynecology the past five years have seen a continuation of the trend toward a rapidly changing and expanding body of knowledge, a trend shared by all other branches of medicine. Preparation for the third edition of this textbook of clinical gynecology therefore called for a complete updating of each chapter and involved considerable revision of all of them. Furthermore, it was felt important to add a chapter concerning diseases of the breast and the role of the gynecologist in their recognition and management.

These extensive revisions are in keeping with the original purpose of the first edition of this book, which was, and is, to provide a concise yet comprehensive and up-to-date volume covering the fundamentals of clinical gynecology. The lists of selected references for the reader who wishes to delve further into a particular subject were also brought up to date and in some instances lengthened, where it seemed this would prove helpful.

Once again, I would like to thank Mr. Fred Belliveau and his entire staff at Little, Brown and Company for their continued help and encouragement, and once more it should be officially recorded that completion of the project depended heavily on the patience and support of an understanding wife and family.

T. H. G., Jr.

Preface to the First Edition

This volume attempts to present concisely yet comprehensively the basic facts and principles necessary to the sound understanding and proper evaluation and management of gynecologic disorders. Since the trend in medical schools today increasingly is to take the larger part of the teaching of clinical medicine out of the lecture halls and into the hospital wards and outpatient clinics, the student now frequently receives almost his entire exposure to and training in gynecology and other branches of clinical medicine within clinical settings, with the emphasis on actual student participation in the physician-patient relationship. It therefore is hoped that this book, which also approaches the fundamentals of gynecology primarily from a clinical standpoint, will prove helpful to the student obtaining his initial training in gynecology in a hospital setting.

Although there is no intent to place a special emphasis on details of therapy (descriptions of operative techniques are completely omitted), since proper treatment must be based on a complete and broad understanding of the disease process and its relation to the patient as a whole, consideration is given throughout to therapeutic principles and methods. It is hoped that this will prove pertinent not only for students, particularly since they are usually presented the opportunity to learn while working among patients, but also for physicians in internship and residency training and for busy practitioners not necessarily specializing in gynecology, all of whom are constantly called upon to examine and treat women with pelvic disease or dysfunction. The intention is that these discussions of therapy will also serve to recapitulate and reinforce the basic facts and current concepts of gynecologic disorders—both for the benefit of those just beginning in gynecology and those seeking an up-to-date review.

In keeping with this general theme, the fundamental embryology, anatomy, and physiology of the female reproductive tract are not presented in the traditional separate sections. They have been integrated instead into appropriate subject matter, where they can most succinctly contribute to the proper understanding of the underlying pathophysiology as well as the clinical features of various disorders.

Each chapter includes a short list of references for further study. The majority of the references listed were chosen because they represent key articles or monographs of particular significance with respect to a specific subject, either historically or because they are recent and valuable additions to the knowledge of this subject or are excellent and succinct reviews of it. The choice of references was also governed by the ready availability, in even a small medical library, of the various periodicals cited, and the lists have deliberately been kept short to further tempt the reader to use them.

I acknowledge with gratitude the untiring efforts of Miss Sarah Butera, my secretary, in the preparation of the manuscript, the superb illustrative work of Mrs. Edith Tagrin, and the skilled craftsmanship of Mrs. Betty Herr Hallinger, who compiled the index. Thanks also go to Mr. Fred Belliveau of Little, Brown and

Company for his invaluable advice and help throughout the project. Equally important, the obvious fact should be recorded officially that such a project could never have been completed without the patience, encouragement, and support of an understanding wife and family.

Finally, in a very real sense, this book is dedicated to the memory of the late Dr. Joe Vincent Meigs, with whom it was my privilege to be closely associated for twelve years. His teaching, guidance, and stimulating enthusiasm over the years served as the inspiration and major justification for undertaking this task.

T. H. G., Jr.

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Gynecologic History and Physical Examination

The importance of a thorough preliminary survey of the patient's overall background and current health status cannot be too strongly emphasized. An adequate general medical history, including a careful system review, and a thorough general physical examination are essential because of the frequency with which the gynecologic condition that prompts the patient to consult a physician is the first manifestation of a serious systemic disease. The menstrual irregularities appearing early in the course of thyroid disease and the vulvovaginitis that may be the first clue to a latent diabetes are specific, frequently encountered examples of this relationship. Furthermore, gynecologic disorders may be accompanied by significant, generalized disturbances, either directly related to and resulting from, or entirely incidental to, the primary pelvic disease. These disorders may have a marked influence on the overall plan of diagnosis and therapy. The systemic manifestations of the various primary pelvic disorders will be discussed in more detail in the appropriate sections.

The presence of independent cardiovascular, renal, or pulmonary disease must also be determined, and this information will often affect the choice of treatment where more than one alternative is available. The nature and details of past illnesses or operative procedures are also important, and it may be necessary to write to other physicians or hospitals to obtain accurate information on these points. If the patient is or has been receiving medications, this fact should be known. Certain hormones may cause abnormal bleeding; broad-spectrum antibiotics may result in candidal vaginitis; certain cardiovascular medications and cortisone compounds may have an important bearing on the preoperative preparations and choice of anesthesia, should surgery be indicated. A history of allergy or sensitivity to any medications is important for obvious reasons.

Social and environmental factors that might have a bearing on pelvic symptoms should also be adequately explored. A general idea of the personality of the patient, her mental and emotional attitudes and problems, and the adequacy of her past and present adjustment to various life situations will also prove extremely helpful in evaluating her pelvic complaints, for symptoms arising in relation to the reproductive tract and its function are frequently psychosomatic in origin. The gynecologist must not only make sure to hear what the patient says but also must listen with a "third ear" to what the patient does not say and to nonverbal forms of communication such as body movements, evidences of inner tension or hesitation, and changes in attitude – all of which may be of help in understanding and dealing with the patient's problems.

Finally, inquiry should always be made regarding familial disorders, particularly whether or not there is a family history of malignant disease, diabetes, tuberculosis, or allergies. A strong family history of any of these disorders should alert the

physician to be on the lookout for similar conditions in the patient and may make it possible to detect them in an early, asymptomatic phase. For example, most patients with some form of pelvic malignancy show a tendency to a higher-than-normal incidence of malignancy in their family background.

The gynecologist must approach the care of the patient from a broad viewpoint. Although his or her principal function in the overall care of women has been and undoubtedly should remain that of a highly trained specialist-consultant in the field of gynecology, in actual fact the gynecologist has long played another important role. For in many ways the gynecologist serves as a primary physician for women – not in the capacity of one who provides them comprehensive primary care in the way that a physician in general practice does, but in the sense that for a large number of American women the gynecologist is the principle source of medical supervision, advice, and occasionally initial care for nongynecologic problems. Thus the gynecologist represents their initial portal of entry into the total health care system and provides them continuity of care within this system.

THE GYNECOLOGIC HISTORY

The patient should initially be allowed to present her chief complaint and the story of her present illness in her own way and words. However, the physician should eventually, if necessary, begin to guide the conversation so as to avoid the presentation of repetitious or insignificant material. By judicious questioning he should elicit accurately the following points of information, if not spontaneously reported by the patient, in order to complete the gynecologic history:

Menstrual History. Age at menarche; length of cycle; regularity of cycle; premenstrual molimina (e.g., breast pain, tenderness and swelling, skin changes, cramps, headaches, tension, weight gain, edema); duration of flow; associated cramps or pelvic pain and time of occurrence; description of amount (number of sanitary pads required per day provides a rough index, with three to six normal) and character of flow; dysmenorrhea, primary or acquired (characteristics of pain, location of pain, time of onset and subsidence, effective medications); date of last menstrual period and previous menstrual period; description of any prior therapy for menstrual disorders; if postmenopausal, age at menopause and description of menopausal symptoms.

Marital History. Age at first or subsequent marriage; duration of marriage; frequency of coitus; dyspareunia; use of contraceptives; general impression of marital adjustment.

Obstetric History. Number of pregnancies and dates (gravidity); number of deliveries and dates (parity) and whether or not births were normal, full term, or presented complications; type of delivery (normal, vaginal, forceps, section); episiotomy or other procedure; birth weight of babies; postpartum difficulties and complications; number of miscarriages (duration of pregnancy at time, complications, need for curettage).

Special inquiries should be made concerning the following:

Abnormal Bleeding. Character and amount; any associated symptoms (e.g., pain, discharge), relation to periods (premenstrual, postmenstrual, intermenstrual, postmenopausal); frequency, duration, and onset (sudden or slow); whether or not preceded by amenorrhea or other menstrual irregularities.

Abnormal Discharge. Amount, color (yellow, white, mucoid, brown), odor, and consistency (thin, watery, thick, cheesy, mucoid); relation to menstrual cycle (premenstrual or postmenstrual aggravation); associated symptoms (vulvovaginal burning and itching, urinary symptoms).

Abnormal Pelvic or Abdominal Pain. Type (sharp, dragging, aching, pressure or bearing-down, crampy, colicky, burning); sudden or gradual onset; duration; whether steady or intermittent; location and radiation; relation to menses or to phase of menstrual cycle; relation to position (upright versus recumbent); relation to function of other organ systems (gastrointestinal or urinary tracts); associated symptoms (abnormal bleeding or discharge, gastrointestinal or bladder disturbances). Pain referred to the low back or buttocks is commonly associated with disease in the cervix, urethra, bladder neck, or lower rectum and often radiates into one or both legs. Discomfort due to uterine or vaginal disease or associated with inflammatory conditions of the bladder fundus is usually localized in the lower abdomen. Ovarian pain and pain due to disease of the fallopian tubes is most often referred to the lower abdominal quadrants just above the groin and often radiates down the medial aspect of the thighs.

Back Pain. Backache of gynecologic origin is most common y secondary to endometriosis, chronic pelvic inflammatory disease, large fibroids arising in the posterior uterine wall and wedged in the hollow of the sacrum, or posterolateral extension of carcinoma of the cervix. It is fair to say, however, that most backaches are of musculoskeletal rather than of gynecologic origin.

Infertility. Duration, prior use of contraceptives, frequency and timing of coitus, prior studies, previous marriages of either partner and any resulting pregnancies.

Abnormal Symptoms of Genital Relaxation. Feeling of protrusion, dragging sensation, pressure, bearing-down discomfort, or sense of insecurity.

Associated Bladder Symptoms. Frequency, nocturia, urgency, dysuria, difficult voiding, incontinence (stress, urgency).

Associated Bowel Symptoms. Constipation, diarrhea, pain referred to region of the rectum, vaginal protrusion on straining during defecation.

Past history of any acute abdominal or pelvic illnesses or operations should be elicited.

THE GYNECOLOGIC PHYSICAL EXAMINATION

A complete general physical examination should be carried out first, including determination of the height, weight, and blood pressure, and a survey of the neck,

breasts, heart, lungs, abdomen, inguinal and femoral regions, and lower extremities. A nurse or other female attendant should always be present for the physical examination if the gynecologist is male. The presence of another female in the room is comforting to female patients, since for some of them the situation is a source of considerable apprehension and embarrassment. Furthermore, it affords complete protection to the physician against the possibility that a patient with an unsuspected psychotic tendency may subsequently allege improper behavior on his part in the examining room. The patient should be warm, physically comfortable and relaxed, properly draped, and have had an opportunity to void immediately prior to examination. The patient's mental ease and relaxation should also be assured by a conscious effort to gain her confidence and cooperation while obtaining the history and by continued reassurance during the physical examination. If the patient is not comfortable and relaxed, the maximum information will not be gained from the examination.

Examination is conveniently begun with the patient in a sitting position on the edge of the table. The physician first checks the head and neck (including palpation of the thyroid and the cervical and supraclavicular nodes), breasts, axillae, back, and lungs. The patient then lies flat on the table for a further check of the breasts, heart, abdomen, groins, and lower extremities.

In examination of the breasts, it is well to inspect them first with the patient sitting erect, both with her arms at her sides, and again while she raises them. This maneuver frequently discloses breast asymmetry, nipple fixation, or a fixed mass beneath the areolar margin, any of which might go unnoticed in the recumbent position. A careful, methodical examination of all quadrants of the breasts and the adjacent axillary regions should then be carried out with the patient in both the erect and supine positions. Palpation is best performed and breast masses most readily appreciated if the flat, palmar surface of the hand and contiguous palmar surfaces of the apposed fingers are employed rather than the actual tips of the fingers. It is important to learn to distinguish the somewhat finely granular, irregular consistency of normal breast tissue from discrete masses that may represent either neoplasm or benign fibrocystic change. It is also important to be aware of the frequent existence of an axillary extension of normal breast tissue, the "axillary tail," and not to mistake it for a tumor; when present, it is almost invariably bilateral and symmetrical. Finally, the areolar areas should gently be compressed to demonstrate the presence of any abnormal secretion or bloody fluid in the nipple glands and ducts.

Since nearly all breast irregularities or lumps are first discovered by the woman herself, it is well worth the effort to instruct patients in the proper method of self-examination of the breast. Patients can readily be shown the correct technique during the course of the physician's examination and should be urged to examine their breasts every month, just after completion of the menstrual period, at a time when normal premenstrual breast engorgement and tenderness will not be misleading. They should be taught to inspect their breasts in front of a mirror, first with arms at their sides, then with arms overhead, looking for changes in size or contour or for dimpling of the skin. Next, lying flat, they can be shown how to palpate correctly

with the right hand all four quadrants of the left breast, preferably with a small pillow under the left shoulder and with the left hand under the head while palpating the inner half of the breast, the left arm down at the side while palpating the outer quadrants. The procedure is then reversed to examine the right breast with the left hand. It is to be hoped that such instruction in proper self-examination of the breast will permit women to recognize any changes more promptly and hence will lead to the earlier detection of breast cancer.

Careful, detailed examination of the abdomen is obviously an integral part of the gynecologic physical examination. It is also particularly important never to neglect examination of both groins, since many gynecologic disorders affecting the vulva and vagina are accompanied by inguinal adenopathy, whether they be inflammatory or neoplastic in type.

The patient is then placed in the lithotomy position with her feet in stirrups and is suitably draped by the nurse. Rarely, the lateral Sims, knee-chest, or standing positions may also be employed, for they are occasionally more suitable than the lithotomy position for determining specific points. The actual pelvic examination begins with inspection; the lower abdomen, the external genitalia (mons veneris, vulvar skin, and labia majora and minora, prepuce and clitoris, introitus, hymeneal or vaginal opening, and the visible portions of the anterior and posterior vaginal walls), the urethral meatus, and the anoperineal area are surveyed first for abnormal distribution or character of hair or pigmentation, clitoral hypertrophy, generalized or local skin lesions, visible subcutaneous or submucosal abnormalities (e.g., inflammation, leukoplakia, ulcers, tumors, or atrophy), and gross displacement and relaxations.

If vaginal smears (cytologic or fresh) are to be obtained, these should be secured prior to the vaginal examination. Although it has long been taught that the left hand should be used to perform bimanual examination, it is not at all necessary to adhere to this ancient tradition. Rather, the hand one is most accustomed to employ or with which one feels most natural and proficient during palpatory examination of any body region should be used, and one should consistently employ this same hand. The examiner stands to the right or left of the patient in employing the right or left hand respectively, rather than directly in front, from which site bimanual examination is difficult and awkward. The labia are gently separated and one or two well-lubricated fingers of the gloved hand are introduced, depressing the perineum and posterior vaginal wall so as to avoid undue and uncomfortable pressure against the more sensitive anteriorly placed structures. With the finger depressing the perineum, the perineal body and pubococcygeal (levator) muscles are palpated. The patient is asked to strain, or cough, or both, which will further reveal any tendency to perineal relaxation, cystocele, rectocele, or prolapse of the uterus or vagina (see Fig. 66). Abnormalities of the structures at the level of the introitus (urethra, Skene's glands, Bartholin's glands) are searched for between the thumb and forefinger. The fingers are then inserted at the proper angle (approximately 30 to 45 degrees above the horizontal) the length of the vagina, palpating the vaginal wall and exocervix and external os as this maneuver is carried out.

Bimanual examination of the uterus and adnexal regions is then carefully done,

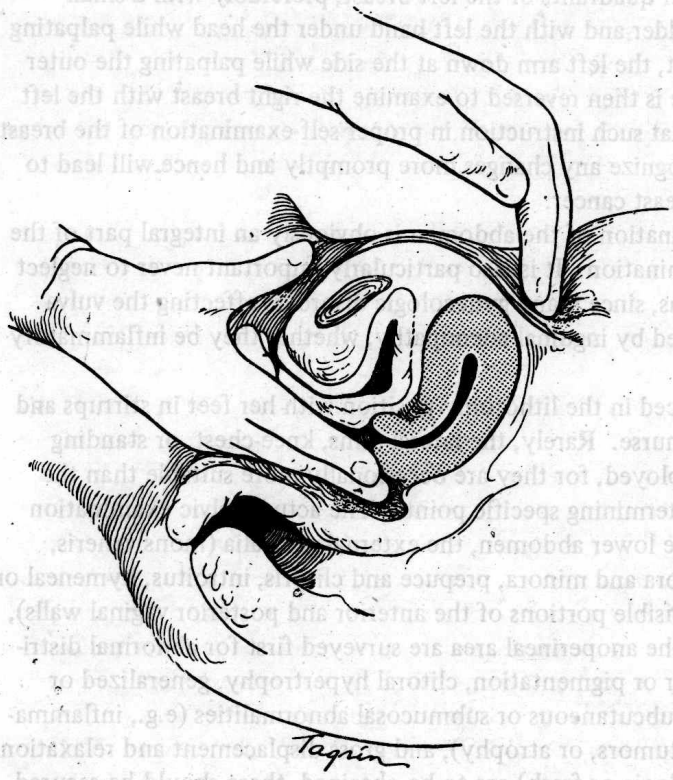

Figure 1
Bimanual abdominovaginal palpation of the uterus.

checking on the size, outline, consistency, mobility, and position of the uterus, ovaries, and any palpable pelvic masses, the vaginal fingers serving to steady and elevate the cervix and uterus anteriorly where the abdominal hand can perform this evaluation (Fig. 1). The vaginal vaults (lateral fornices or adnexal regions) are then palpated, feeling primarily with the vaginal fingers, the abdominal hand being used to sweep the adnexa down to them (Fig. 2). Anterior and posterior (cul-de-sac or pouch of Douglas) fornices are then explored bimanually in the same way, and the fingers then turned and pressed laterally to feel the pelvic walls as well. Normal adnexa are frequently not palpable even under the most ideal conditions (normal fallopian tubes probably never), particularly if the patient is unrelaxed or obese. However, under anesthesia, normal-sized ovaries are nearly always palpable even in an obese patient. Unusually mobile adnexa (with relaxed and elongated infundibulopelvic and ovarian ligaments) may result in the ovaries being palpated in the cul-de-sac posteriorly at the time of rectal examination, rather than during vaginal examination. Palpation of "normal-sized" ovaries (e.g., 3.5 × 2 × 1.5 cm) in the premenopausal woman with active ovarian function is to be expected. However,

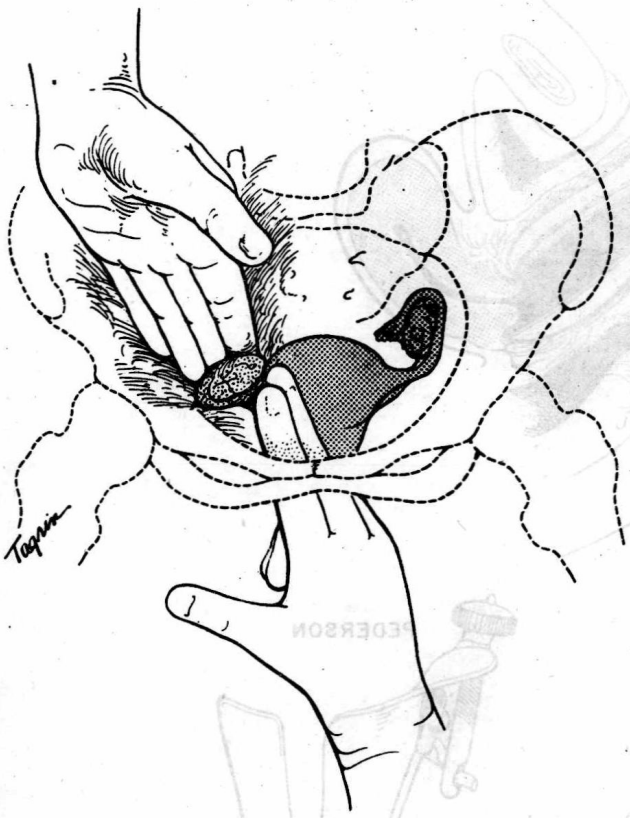

Figure 2
Bimanual abdominovaginal palpation of the adnexa.

as pointed out by Barber and Graber [1], palpation of ovaries of "normal size" in a woman three to five years after her menopause is not a normal or expected clinical finding; on the contrary, it suggests that the ovaries are not normal at all, and may signify early ovarian cancer, which has its peak incidence between the ages of 45 to 60. (Serious consideration needs to be given to surgical exploration and removal of the gonads in this situation, since the normal postmenopausal ovary is usually one-third or less the size of the premenopausal ovary and is ordinarily not palpable.)

The examiner now sits directly in front of the patient with a suitable flexible lamp at his disposal and carries out the speculum examination, introducing the previously warmed and well-lubricated blades after separating the labia and depressing the perineal body in the same manner as for bimanual examination. A Graves bivalve speculum of appropriate size (small [infant], medium ["regular"], medium with narrow blades [Pederson], or large, depending on the size of the introitus and the size and length of the vaginal canal) is inserted at the proper angle and with a slight rotary motion (Fig. 3). In most instances, even in the presence of an intact hymen,

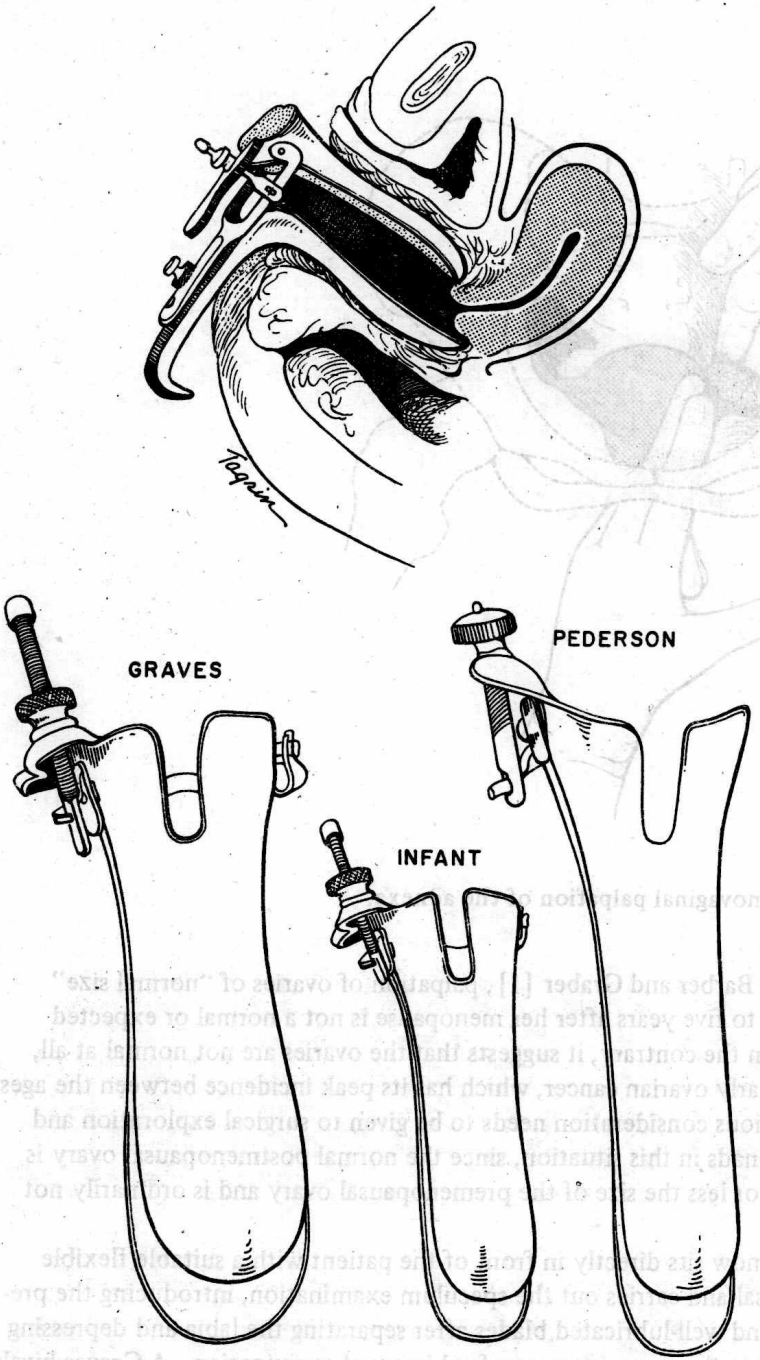

Figure 3
Insertion of vaginal speculum. The various types and sizes of specula are shown.

the hymeneal opening is sufficient to permit both one-finger bimanual vaginal and speculum examinations (usually employing the narrow-bladed instrument) without difficulty, if they are properly and gently done. (If these examinations are not possible, information obtained by a bimanual rectal examination is often sufficient in a young female; otherwise, examination under anesthesia will be necessary.) The speculum is gently but firmly inserted its full length, and the blades then opened, exposing the cervix for inspection, Schiller's test, cervical or endometrial biopsy, or any of the other office diagnostic procedures (see Chap. 2). A little manipulation may be necessary to expose the cervix if the uterus is retroverted or if the vaginal walls are voluminous, lax, and redundant. A cotton pledget grasped at the end of a curved uterine-dressing forceps may be used as a "pusher" to facilitate exposure. As the instrument is withdrawn, the vaginal walls, including the posterior fornix, and any secretions or discharge present are then also examined for evidence of vaginitis, atrophy, or other lesions.

Last, rectal and bimanual abdominal-rectal examinations are done, to look for external and internal hemorrhoids, fissures, fistulas, or anorectal polyps or tumors, and the uterus is palpated bimanually (only now will the fundus be palpable if the uterus is retroverted), together with the ovaries and particularly the cul-de-sac and uterosacral ligament areas and the paracervical and paravaginal regions (so-called anterior parametrium). These areas are best felt rectally, and herein the diagnostic findings of endometriosis or early spread of cervical carcinoma may lie (see Fig. 38). The rectal finger can also explore the surface of each pelvic wall in turn, feeling for enlarged nodes or other abnormalities. At this point, with the index finger already in the rectum, the thumb may be introduced simultaneously into the vagina so that a bidigital, bimanual abdominal-vaginal-rectal examination is done (Fig. 4). The accuracy and precision of the findings are thereby sometimes increased, particularly with respect to the cul-de-sac, rectovaginal septal, uterosacral, and paracervical regions. Furthermore, by having the patient strain or assume the standing position while the examiner maintains the two fingers within the rectum and vagina, the presence of an enterocele (see Fig. 67), perhaps suspected but demonstrable in no other way, may be confirmed by feeling the sac with its contents bulge down between the vaginal and rectal fingers.

At the conclusion of the pelvic examination the patient should be examined briefly in the standing position, checking for the presence of inguinal or femoral hernias and inspecting the lower extremities for varicosities, edema, or skin lesions. If varicosities are present, the various maneuvers useful in the evaluation of their type and extent can be carried out. If there is any question of peripheral arterial insufficiency, the femoral, popliteal, dorsalis pedis, and posterior tibial pulses should also be checked.

Following completion of the physical examination, the patient is allowed to dress in privacy. When she returns to the consultation room, the important features of the history and physical findings should be reviewed for her, their significance explained in easily understood terms, and the suggested plan of further study and treatment outlined, again explaining the need and rationale for the proposed program so that