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# THE TECHNIQUE OF THE VAGINAL DIAPHRAGM\*

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**T**HE vaginal diaphragm, in conjunction with a contraceptive jelly, still remains the contraceptive method of choice. Admittedly this method possesses certain limitations and does not comply with all the requirements for an ideal contraceptive. Nevertheless, it is the best available at present and is the mainstay in our contraceptive equipment.

In spite of its widespread use, however, there are certain differences of opinion among clinicians about some of the technical details of its application. The object of this paper is to present a summary of the procedure followed at the Margaret Sanger Research Bureau and to discuss a few of the controversial points that come up from time to time.

The occlusive diaphragm is not a recent discovery. References to primitive types of vaginal occlusive devices are mentioned in many of the early medical writings. As a matter of fact, in the earliest medical paper in which contraceptives are mentioned, an Egyptian Papyrus which dates back to about 1850 B.C., the use of certain gum-like

substances for vaginal occlusion is recommended (1). Himes (2) brings together a formidable list of vaginal occlusive devices which were used by preliterate and early peoples. In its modern form, however, the vaginal diaphragm was first described in 1882, by Dr. Wilhelm Mensinga of Flensburg (3). Soon thereafter it came into use in Holland where Drs. Aletta Jacobs and Johannes Rutgers, the pioneers of the birth control movement in that country, first began to teach this method. Several decades later it was adopted in England and other European countries.

The first to introduce the diaphragm in America was, as far as I know, Margaret Sanger. When Mrs. Sanger's interest became definitely enlisted in the cause of birth control she went to Europe and, in 1915, spent some time in Holland observing the work of Dr. Rutgers (4). Upon her return to America she brought with her the vaginal diaphragm, and when, in 1923, she established the Birth Control Clinical Research Bureau, the first Birth Control Clinic in America (now known as the Margaret Sanger Research Bureau), the diaphragm was the chief method prescribed there. Since then it has been widely adopted by other birth control clinics as well as by the medical profession throughout the country. At the Bureau nearly 80,000 women have now received contraceptive advice, and for over 85 per cent of them, one or the other type of vaginal diaphragm has been prescribed.

\* Shortly before her death, on July 10, 1941, Dr. Stone made extensive revisions in her article on "The Vaginal Diaphragm", which appeared in the *Journal of Contraception* in 1938. It seems fitting that this revised paper should be published at this time, particularly in view of the fact that Dr. Hannah Stone was a pioneer in this field and had the most extensive clinical experience with contraceptive techniques.

## FITTING THE DIAPHRAGM

To afford adequate protection the type and the size of the diaphragm must be selected for the patient according to her individual requirements. This can be done only after a gynecological examination to determine the depth of the vagina, the tone of the perineum, and the condition of the pelvic organs. It is no more possible to expect satisfactory results from a diaphragm without an individual selection than to expect satisfactory results from a pair of eye glasses without an individual refraction and examination. I am mentioning this point because even now we see patients from time to time who tell us that their physicians had given them a prescription for a diaphragm without a preliminary examination and fitting.

*Type of Diaphragm.* The diaphragms available at present vary considerably in shape, in depth, in the kind of rubber employed, and in the type, thickness and tension of the spring. Each variety has its own particular advantages, and the clinician experienced in this field will prefer one or the other, according to the individual indications. One may obtain satisfactory results with any of the varieties available providing the diaphragm is carefully selected for the particular patient. Personally, I prefer to prescribe a diaphragm of medium depth, of a smooth, translucent rubber, with the rim made of a spiral, coiled spring of moderate diameter and tension. Too thick a rim or one too rigid and tense may prove to be uncomfortable. In some cases a diaphragm with a flat watchspring rim holds and fits better than one with a coiled spring and is then to be preferred.

One anatomical guide which I have found to be of much value in determining the type of diaphragm to be prescribed, and to which I had previously called attention (5), is the condition of the retro-

pubic vault. In women with good muscle tone the anterior vaginal wall forms a well defined recess behind the symphysis. The anterior rim of the pessary fits in snugly in this space, resting in front against the pubic arch. When, however, the anterior wall, due to poor muscle tone, a perineal laceration, or a cysto-urethrocele, is relaxed and sagging, this space is almost obliterated and the diaphragm does not fit well and tends to sag down. In such cases the regular round diaphragm is inadequate, and either a curved-rim diaphragm of the *Matrisalus* or *Duraflex* type, a soft or firm cervical cap, or some other method of contraception is to be advised instead.

*Size.* Vaginal diaphragms come in some 20 different sizes, ranging from 45 to 105 mm. in diameter. In selecting the proper size two factors have to be taken into consideration: the depth of the vagina and the tone of its musculature. Not infrequently two women with the same vaginal dimensions in millimeters may require different size diaphragms because of a marked difference in muscle tone. With some experience one soon learns to gauge the approximate size indicated. This size is then inserted and the patient examined with the diaphragm in place. If it is found not to fit well, other sizes have to be tried until the one most suitable for the particular patient is chosen.

There seems to be, however, a difference of opinion among clinicians on the basic question of how the diaphragm should fit in the vagina. Some maintain that the pessary should fit obliquely and should lie "almost transversely, across the upper part of the vaginal canal," (6) and they generally prescribe the smaller sizes, usually 50 to 65 mm. in diameter. In our opinion the diaphragm is more satisfactory when it fits diagonally along the longitudinal axis of the vagina, extending

from the posterior fornix to the pubic bone in front. Hence, we choose as a rule the largest size which can comfortably be worn. The sizes most frequently prescribed range from 70 to 85, or even 90. Seventy-five is the most frequent single size prescribed at the Bureau and in the American clinics generally.

When the size prescribed is either too small or too large, the pessary may not provide satisfactory protection. If it is too small, it does not reach the front part of the vagina and may easily be dislodged during coitus; if it is too large, it comes too far forward, and may even project from the vagina. In either case, the diaphragm is not held well in place and may sag down permitting the male organ to pass over the front rim and nullifying the protective value of the diaphragm. When the pessary is too large, furthermore, it is apt to cause local discomfort.

Discomfort may also be experienced from the use of the diaphragm in the presence of pelvic pathology, such as parametritis, adnexal disease, ovarian cyst, etc. Under such conditions a pessary should either not be prescribed at all, or else the patient should be instructed not to leave it in place for more than a few hours at a time.

It may be laid down as a general rule that whenever a diaphragm causes pain, or pressure, or discomfort of any kind, it is contraindicated. Either a different size or type is to be prescribed, or else the patient is not suitable for a diaphragm at all. When a pessary is well selected and placed, the woman should practically be unaware of its presence inside.

*Convex or Concave Side Up?* Should the vaginal pessary be inserted "dome up" or "dome down," that is, with the convex or the concave side towards the cervix (7)? Some physicians prefer one technique and some the other, and either one

may be employed with equal efficacy. The convex side up, however, seems to me to be the most desirable, first, because it makes it easier for the woman to remove the pessary, and secondly, because in the dome-up position less of the redundant rubber will protrude into the vagina.

#### INSTRUCTING THE PATIENT

The success or failure of the method will depend upon the care taken in instructing the patient in the technique of its use. As a first step it is well to explain to the woman the *modus operandi* of the diaphragm, its position in the genital tract and the manner of its use. A diagram or a pelvic model may well be used for that purpose. The fine models recently developed by Dr. Dickinson should prove especially valuable. The patient, after emptying her bladder and washing her hands thoroughly, is then placed on the examining table and she is asked to insert one or two fingers into the vagina, to note its contour and direction, and to feel for and identify the cervix. The physician then inserts the pessary, and the patient again examines herself to note its position in the vagina, and, when possible, to feel the projection of the cervix through it.

The pessary is removed, and the patient taught how to insert it herself. She is instructed to grasp the upper half of the pessary with the right hand, and to compress it between the thumb, index and middle fingers, insert the free end into the vaginal orifice and direct it downward and backward along the vaginal canal. When about half way in, the grip is released, the fingers are brought up to the upper pole of the rim and the diaphragm allowed to open gradually. After it has entered completely, the front part of the rim is pushed with the index finger inward and upward until it engages behind the pubic bone. After examining herself and

noting the relation of the pessary to the cervix, the patient removes the diaphragm by hooking the index finger behind the front part of the rim and pulling forward. She is then allowed to re-insert and remove the pessary several times, until both she and the physician are confident that she has learned the technique.

*Thumb Method.* In a certain number of cases, particularly in patients with backward or lateral displacements of the uterus, the lower pole of the pessary is apt to catch in front of the cervix and the entire diaphragm may then be crowded into the anterior fornix. The cervix thus remains completely exposed, and the protective value of the pessary is lost.

This wrong placement is a potential cause of failure and should be particularly guarded against. Whenever there is a tendency for the pessary to catch in front of the cervix special instructions must be given to the patient how to guide the pessary beyond the cervical os. The method which I have found most useful for such cases is as follows: The patient should hold the pessary in her right hand and partially introduce it into the vagina in the usual manner. Then she should place the thumb of her left hand against the lower rim which has already entered the vagina and direct it firmly with this thumb along the floor of the vagina. Almost invariably this manoeuvre guides the diaphragm past the cervix and permits it to engage in the posterior fornix. The patient should also be impressed with the need of being certain that she can feel the cervix covered by the rubber.

*The Director.* In recent years several types of mechanical inserters or directors have been developed for the purpose of facilitating the introduction and removal of the diaphragm. Where the patient, either for psychological or anatomical reasons, finds it difficult to acquire the

technique of manual insertion, a director may be found very useful. It is also indicated in cases of retrodisplacement of the uterus, where the diaphragm is apt to catch in front of the cervix. By means of the director the pessary is carried beyond the cervix and this eliminates the danger of cervical exposure. The type of director I prefer is one made of a single piece of light plastic material with several notches on the convex side so that it may be used for different sizes of diaphragms. The director should be inserted with its convex or notched surface facing the patient. After the diaphragm is passed completely into the vaginal canal a simple twist of the director releases the pessary inside and the instrument is then easily withdrawn. The upper end of the inserter is slightly hooked and can be used satisfactorily for removing the pessary.

As a rule it takes but a few minutes to instruct a woman how to use a diaphragm. Some women, however, require much more time. They may find it hard to understand the principle of the method, or they may be very much inhibited and reluctant to touch their genitals. The physician must exercise much patience in such instances. No matter how much extra time it may take to teach the patient, the effort is well worth while. A thorough understanding and knowledge of the technique materially increases the patient's confidence in the method and leads to more satisfactory and successful results. Wherever indicated, the woman should be given the diaphragm to practice at home and requested to return for a check-up before she actually begins to use the method for contraceptive purposes. At one time we had made it a routine at the Bureau to have every patient return within a week for a check-up, but we have found this not to be necessary in every case and we now omit the check-up visit for pa-

tients who readily acquire the technique during the initial instruction.

#### THE ROLE OF JELLY

In describing the technique of the diaphragm method no mention has thus far been made of the contraceptive or spermicidal jelly generally prescribed in conjunction with the diaphragm. The jelly serves both as a lubricant to facilitate the insertion of the diaphragm and as an additional contraceptive agent, and we consider its use an essential part of the method. It is supplied in a collapsible tube and the patient is instructed to smear some of it all around the rim as well as on the surface of the diaphragm which is to face the cervix. For the sake of simplicity we frequently advise the patient to smear a little of the jelly on both sides of the diaphragm. This method thus combines the features of mechanical occlusion with the physico-chemical effects of the jelly.

The required properties for a jelly to be used with a diaphragm are that it contain no harmful or irritating ingredients, that it be spermicidal in quality, that it smear evenly and adhere to moist rubber without being too liquid or too lumpy, and that it be esthetically pleasing in color and odor. There are many different jellies available today which more or less meet these requirements.

#### DIRECTIONS TO THE PATIENT

In addition to teaching the patient how to insert and remove the diaphragm, she should also be given explicit directions, preferably in printed form, concerning the general procedure to be followed in the use of the method. This should include directions about the care of the diaphragm, the time of placement and removal, and the use of the douche.

*Time of Placement.* Whether the dia-

phragm is to be inserted before retiring or just before relations take place will depend upon many individual considerations. Some women prefer to insert the diaphragm routinely each evening so as to avoid any need for preparation prior to coitus. Others find it more convenient to place the diaphragm only when actually needed. Each patient may follow her own predilection in this matter.

*Time of Removal.* The woman is generally advised to leave the diaphragm in place until the next morning. She may, however, remove it immediately after coitus if she prefers, providing a thorough douche is taken first. From a physiological and psychological viewpoint it is not desirable to rise immediately after intercourse for douching purposes, but if the woman prefers to do so it will not affect the efficacy of the method. The diaphragm may also be left in for a longer period when desired, though I feel that for general hygienic reasons it is not advisable to retain the pessary for more than 24 hours at a time.

*The Douche.* Usually the patient is advised to douche with about one quart (half a bag) of plain or soapy warm water before removing the diaphragm and then douche with the other half after its removal. The object of the douche is to wash away any living spermatozoa which may still be present in the vaginal tract. It is the general consensus of opinion, however, that the spermatozoa can remain alive in the vagina for only a few hours, certainly for not more than eight. Hence it would seem that when the pessary has been left in place for some eight hours after intercourse it may safely be removed without douching.

*Care of Diaphragm.* After use the diaphragm should be cleansed with soap and water, dried thoroughly on both sides, dusted with talcum or corn starch and

placed in its container. Vaseline or other greasy substances should not be used as they tend to spoil the rubber. With proper care a diaphragm made by a reliable concern will last for some two years, and its use therefore constitutes a rather inexpensive measure for the prevention of conception.

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