

The physician's part in a
Practical state program of prenatal
care

and
Standards of prenatal care

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THE PHYSICIAN'S PART IN A PRACTICAL STATE PROGRAM OF PRENATAL CARE

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[Read by Dr. Ruth E. Boynton]

A good understanding of the significance and purpose of prenatal or antepartum care must be had before an attempt is made to elaborate an intelligent and practical program and to define the relationship of the physician to such a plan for the State.¹ According to the standards of prenatal care recently formulated by the committee appointed for that purpose by the Children's Bureau (see p. 10) "prenatal care is that part of maternal care which has as its object the complete supervision of the prospective mother in order to preserve the offspring's and her own happiness, health, and life. Therefore all pregnant women should be under medical supervision during their pregnancy, for it is only by careful routine prenatal care that pregnancy and labor can be made safer."

If we are created to create, and the chief end of man is man—dare one in this modern era say that maternity is the chief function of women? The carrying out of this physiologic law is vital to the perpetuation of the human race, which we assume to be the desire of human beings. The proper carrying out of this function involves many laws and principles which are as yet but imperfectly understood, and even those facts which are established are not generally appreciated and applied. We may also fairly assume that all reasonable humans take enough pride in their being to realize the desirability, importance, and ultimate necessity of continued improvement and upbuilding of the human race.

Much can be done by caring for mother and future offspring during the period of pregnancy. For instance, congenital syphilis can be more effectually treated during pregnancy than during infancy, and no one doubts that it could be still more adequately handled before the onset of pregnancy. This specific instance illustrates the general principle that although much can be done by our present plan of prenatal care to preserve the happiness, health, and lives of offspring this plan is too limited to accomplish fully the purposes which are enunciated. While we are striving to perfect and carry out universally the care of the pregnant woman we must also begin to enlarge our definition of prenatal care or coin another name, such as anteconceptional care or preembryonic care.

This leads one to consider when prenatal care begins; and it must be recognized that causes operate to affect the offspring for good or ill before the fertilization which leads to the ultimate development of an individual. There is a continuous chain of events without definite beginnings or endings and all we can do is to pick up the

¹ The word State is here used to refer to the geographic or governmental unit.

individual links and try to weld as strong a chain as possible for human welfare. We are struggling against tuberculosis as a disease of individuals, but do we think of it from the standpoint of future generations? Do we realize or understand the ultimate possibilities of not propagating individuals peculiarly susceptible to tuberculosis? Do we grasp the tremendous importance to future generations of preventing tuberculous infection in the fathers and mothers of the coming generation? Can the increase of defectives be checked by care of the pregnant woman? Which type of prenatal care is more sane and far-reaching in its results—that which is applied to defective individuals during the anteconceptional or preembryonic period and prevents the natural increase of such individuals or that plan which humanely surrounds these poor defectives who are prospective mothers by prenatal care which is good but hopelessly inadequate so far as final results are concerned? This is pointed out from no lack of pity for these poor unfortunates, but because the pity is so great that one wishes there were no more of them to interfere with the happiness and usefulness of future generations. One can but praise the efforts for the proper feeding and development, both physical and psychic, of the infants and children of the present day; but is the tremendous prenatal significance of this program of infant and child welfare appreciated?

Consider the one fact of skeletal development and the elimination of rickets in its relation to childbearing. At one time this disease was so common in England as to bear the name English disease. It is still common among many groups in all countries. Can one estimate the tremendous importance of the complete elimination of this disease in terms of its result on childbearing and in preserving the happiness, health, and lives of both mother and offspring? In the same manner the prevention of faulty nutrition, of improper hygiene, both physical and mental, and of disease would forestall many unhappy results which ensue in later life and handicap both mothers and offspring.

The prevention and appropriate treatment of such diseases as scarlet fever and diphtheria in childhood would doubtless prevent some of the cardiac and renal conditions which in later life may complicate pregnancy and labor. The prevention and appropriate treatment of such diseases in young adult life as rheumatic fever would prevent many cardiac complications of pregnancy. The recognition and removal of foci of streptococcic infection might remove many of the complicating renal conditions of pregnancy.

It might seem almost useless to talk of the hackneyed subject of venereal disease, its cure and prevention, if it were not almost an everyday occurrence to see the dire results of gonorrheal and syphilitic infection on both mothers and offspring. It is useless to think of accomplishing the purposes of prenatal care by the treatment of these diseases during pregnancy. Such therapy at times can not be avoided; but the laity should understand and the medical profession should realize more fully the necessity for curing these diseases before the onset of pregnancy, and they should make such procedure a more general practice.

Much good could be accomplished for both parents and offspring if careful histories and physical examinations of potential fathers and mothers could be made effectually before conception took place. This would be in line with the idea of periodic physical examinations, but the point of view would be somewhat different. The idea back of the periodic health examination is, of course, the welfare of the individual; but here we would take into consideration not only the health of the prospective parent but also that of the future offspring. This brings up the matter of the future father and his relation to the happiness, health, and even life of both his wife and his offspring. This parent has been largely ignored in prenatal plans, and yet he is responsible for a great deal of damage, some of which could be avoided by his inclusion in the prenatal program.

Proper prenatal care of the future mother includes much more than the physician can supply. She needs all any woman needs—and more—to insure her comfort, happiness, and good health. Everything to make a suitable environment, assuring good hygiene, proper nutriment, appropriate work, and recreation should be provided. No physician, even granting that he has the requisite knowledge to advise properly, could furnish all the social and economic desiderata to his patients. Many things which are desirable and much that is necessary for these women can not be furnished under the present social and economic system. But a very important part of any prenatal plan is the guidance of mothers in making the most of the facilities they have, and, in case of need, assisting them to obtain the necessities which they lack for themselves and the future baby. This is, of course, somewhat aside from the physician's part in the plan; but it is vital for the success of his work and for the welfare of his patients. It is highly desirable that the physician make it a point to see that the patient make some contacts by which these needs may be met. This is, in fact, almost vital for the proper working of the prenatal plan, as well as for the natal and postnatal care, which are certainly not of less importance. The physician's main task is that of looking after the health of his clientele, but the idea of healing the sick has been so thoroughly ingrained that it is difficult to inculcate the idea of prevention into the lay and medical mind. Unless one grasps the fundamental idea of prevention as applied to obstetrics, there will be no comprehension of prenatal care. Unfortunately not all catastrophes can be prevented even though foreseen, so it can be assumed from the beginning that there probably never will be, by any plan of prenatal care, 100 per cent of prevention of the conditions complicating pregnancy.

The physician's first duty is to his patient, and if his obligations are well met he is fulfilling to a large extent his part in carrying out the plan of prenatal care. As an individual he can hardly solicit the people's patronage, but he can instruct and care for them after his advice has been sought. The first part the physician plays in a practical prenatal plan which we will consider is his individual relationship to the prospective mother. His first effort should be to win the confidence of his patient and assure her of his interest in her welfare. This can best be done by a careful consideration of her problems and a study of her case. The physician who has known his patient from infancy has a peculiar advantage provided he has the

necessary intelligence and training to understand the events which have taken place in her past life. Most physicians have not the advantage of this first-hand knowledge of their patients. They elicit their information by careful questioning and examination of the patient herself, and perhaps even by interrogation of the parents and husband. It is usually better to obtain the necessary information from the patient alone, because usually more accurate and complete data are given thus than when a third person is present. It is also true that oftentimes more valuable information can be obtained from parents or husband when the patient is not present. In general these exhaustive inquiries are not necessary; and yet one never knows in which cases information of the utmost importance is being missed. There is, however, so much room for improvement in the routine management of prenatal cases by the physician that one need not consider overmuch the exceptional cases until the general level of obstetric practice has been raised above its present level.

When the patient is first seen a good history should be taken so as to bring out the events in her past life. Facts relative to her early development and nutrition should be elicited. History of previous diseases, such as scarlatina, diphtheria, rheumatic fever, tonsillitis, variola, tuberculosis, and venereal infections should be obtained. Indirect evidence and history of possible exposure to various infections often give valuable information. The facts as to previous vaccination are important, as serious results for both mother and fetus may be prevented. The occurrence of conditions which have required surgical intervention should be noted, also the history of goitrous conditions, thoracic disease, and acute or chronic abdominal affections. The possibility of persistent foci of infection should not be overlooked. The sexual life of the woman should be considered from the standpoint of her puberal development and menstrual history. The character of previous pregnancies, labors, and puerperiums is important, and this information may best be obtained by questions which will bring out the facts in chronological order. The date of termination should be ascertained, the period of gestation, complications, etc., that occurred during the labor. The immediate and remote outcome of this process, as affecting both mother and offspring, is of the greatest value in establishing future methods of procedure. It is of course obvious that careful and accurate data regarding the existing pregnancy should be obtained.

A careful physical examination should be made not only to establish the patient's status with reference to the pregnancy itself but also to determine as accurately as possible the physical and mental condition of the woman. It is not necessary to go into the details of this examination, as every physician should know the steps necessary as a routine, and should then make such additional investigation as may be needed in individual cases. Special observations of importance for the management of obstetrical cases should be added to those usually employed in the physical examination of patients. Such a study should be sufficiently thorough and accurate to determine whether the woman is in an approximately normal condition, and if not, the nature and import of the complicating condition.

It is not sufficient to make only one examination of the patient. She must be seen repeatedly during pregnancy in order to be supervised intelligently. If this is not done some affection may develop, and the woman may be in a serious condition before it is realized. In my experience it has not been sufficient to trust to the patient herself to come for these periodic observations. Many will not come of their own accord so long as they feel well; and this is not a safe guide, as many do not feel ill until some toxemia or other condition has reached a serious stage. It is therefore necessary for the physician or someone to follow up these cases at least until the laity is more cooperatively intelligent regarding prenatal care than at the present time.

Final obstetric examination should be made a few weeks before the date at which confinement is expected in order to determine the condition of the mother and the size and position of the fetus. Needless to say, in determining how, where, and by whom the patient should be cared for at the time of delivery, one should be guided by the information previously obtained; otherwise the good prenatal care may have been for naught and the natal care may prove disastrous to mother or offspring or both. Good prenatal care is nothing but the proper foundation for good natal attention. Neither is complete in itself, and if either is inadequate both may result in failure. Nor are they complete without the best of postnatal care. Improper postnatal care may thwart the results of good prenatal and natal care.

The advice, care, and attention which the physician gives to the woman during her pregnancy, labor, and puerperium are based on the evidence and information which the physician has obtained. Naturally the management of cases is not identical, and instructions will differ; but there are some fundamentals which should be covered in all cases, though the details differ according to the peculiarities of the different individuals.

It is not necessary to go into details regarding the hygiene of pregnancy. The main facts are, or should be, common knowledge. Any physician should know these facts, and if he does not it is easy for him to obtain them if he is interested. It is one of his duties to provide the patient with this information in some way. He must decide on his instructions and vary them according to the individual needs of his patients. He must continually be on the lookout for abnormal conditions which are both accidental and incidental to pregnancy. It is part of the physician's task to obtain the cooperation of his patient so that he may be informed at the earliest possible time of any symptoms indicating complications. Only in this manner can events which lead to disaster for mother and offspring be avoided during pregnancy. Last, but by no means least, the prospective mother must be shown the necessity and manner of preparing herself (and her home, if need be) for the reception of the newcomer. It is only during pregnancy that proper preparations can be made for the all-important natal and postnatal care. Here is another important task for the physician in his relation to his individual patient. Prenatal care is not an end in itself but only a means to an end.

The physician also has a relationship to his community. He is granted the privilege of medical practice by the State, and in consequence he incurs certain obligations. Chief among these is that of teaching and helping the community to prevent disease and death among its members. It should be one of his functions to cooperate in every way with the various agencies of his community in an effort to apply prevention of death and disease in connection with the practice of obstetrics. It is his job to educate; to demonstrate by his methods of obstetric care that he knows the importance of the proper examination and observation of pregnant women.

Again, there is a relationship between members of the medical profession. One member should not hesitate to give advice and help, or to receive it from another professional man who is qualified to give it. There remain the specialist in obstetrics and the general practitioner or inexperienced obstetrician to consider. The experienced specialist really should not care for the routine and normal obstetrical cases. He should rather reserve his energy and ability for the more trying and hazardous cases. On the other hand, the practitioner and inexperienced obstetrician should not hesitate to seek from others the benefit of their greater experience for the welfare of his patients.

The relation of the practitioner to clinics is of great importance. Many patients can not afford to pay an adequate fee for prenatal, natal, and postnatal care. Some can not pay for any of this service and should receive this care in a free or per diem clinic. Other patients are able to pay for part of the service and can employ a physician for this portion of their care. There should be the fullest cooperation between the physicians and these clinics to the ultimate benefit of all concerned. There should be helpful teamwork between those who practice obstetrics and the maternity wards of hospitals so that complicated cases can be hospitalized promptly and cared for properly before it is too late to prevent disastrous consequences. Hospital facilities for the care of maternity patients have been and still are woefully inadequate. Physicians should cooperate in plans to develop and improve such hospital facilities not only in large centers of population but also in counties and small cities, where their existence is even more important.

What the individual physician should do, as outlined above, the medical profession should also do on a larger scale. The community should be educated to the necessity of prevention in general and to the importance of prevention of maternal and fetal mortality and morbidity. There is nothing more important to the community than the production and protection of normal human beings. Proper obstetric care, as represented by prenatal care, is one of the most important ways of accomplishing this result. The medical profession should be vitally interested in fostering a State plan for carrying on this work. There should always be frankness and harmony between those who are officially responsible for carrying on the work and those who are actually in the field. Both are working for the welfare of mankind and attempting to save life and health. No plan of prenatal care can be successful in any State where the participation and cooperation of the medical pro-

fession has not been obtained, for the physicians are the persons to carry on the work with women in pregnancy and labor and with the newborn. The plan is, and should be, mutual. The maternity and infancy program can be carried out successfully in no other way.

Teachers and teaching institutions are indispensable in the accomplishment of any State plan. Physicians already in practice need to be taught and helped to keep abreast of obstetric progress. Specialists must be taught and trained through years of instruction. Practitioners must be prepared during the undergraduate course and the interne year. This means that there must be good teachers, well trained and with adequate time and energy to make teaching their main work. It means also that there must be adequate teaching hours for obstetrics, adequate equipment, and patients who can be used clinically for demonstration without harm or discomfort to themselves or offspring.

Investigators are always of the greatest importance in any field. Competent ones are scarce, and their facilities are none too good. The problems are numerous, and they will sooner or later be solved. Investigators should be included in any practical State plan—at least to the extent that desirable material should be made available for their careful study. Physicians should recognize and cooperate in furthering this plan.

There must, therefore, be close cooperation among officials, practitioners, and the medical profession. The laity and physicians must understand each other. The former must realize that careful preparation and years of study are necessary qualifications, and the latter must know that the people wish real service which gives results. Obstetric practitioners must cooperate with one another, and men must realize their own limitations and recognize the qualifications of others along special lines. All should strive for better institutional facilities and organizations for maternity care. There should be closer contact between practitioners and teachers and teaching institutions. Investigators should be encouraged and supplied with material for study from all available sources. We should all realize the value of statistics and especially vital statistics, and should cooperate to the fullest extent in obtaining accurate and valuable reports. It is also important that we recognize the desirability of certain changes in reporting terminations of pregnancy, especially those pregnancies which result in stillbirths and nonviable premature fetuses. Physicians should recognize the fields of activity occupied in prenatal work by nurses and social workers. Each should take pride in his own work and respect the ability and usefulness of those in other fields of activity so that all may work together in harmony for the preservation of the happiness, health, and lives of mothers and their offspring.

The CHAIRMAN. We are going to postpone our discussion until the end of the morning session. You will remember that at last year's conference it was voted that the Children's Bureau should undertake to have a committee prepare standards on prenatal care which you might use in your own State work. We began shortly after the last conference and have the printed pamphlets ready for

distribution at this conference. Since the discussion of these standards will involve discussion of Doctor Adair's paper I am going to vary the program slightly. Doctor De Normandie was good enough to serve as chairman of the committee on prenatal standards and to organize the committee. I am sure that all of you are grateful to him, as I am, for all the work he has done on the committee and also because he is here with us this morning. We shall have copies of the pamphlet distributed and then we shall hear from Doctor De Normandie.

[Copies of Standards of Prenatal Care (Children's Bureau Publication No. 153) were distributed]

STANDARDS OF PRENATAL CARE

By ROBERT L. DE NORMANDIE, M. D., INSTRUCTOR IN OBSTETRICS,
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At the meeting held in October, 1924, similar to the one which you are now holding, it was suggested that standards for prenatal care be drawn up for the use of physicians at clinics and in private work. This request originated, I believe, because there is such a wide variance of opinion regarding what constitutes proper prenatal care. With Miss Abbott's help I appointed the following committee: Dr. Fred L. Adair, of Minneapolis; Dr. Rudolph W. Holmes, of Chicago; Dr. Ralph W. Lobenstine, of New York; Dr. Frank W. Lynch, of San Francisco; Dr. Florence L. McKay, of Albany; Dr. James R. McCord, of Atlanta; Dr. C. Jeff Miller, of New Orleans; Dr. George Clark Mosher, of Kansas City; Dr. Otto Schwarz, of St. Louis; and Dr. Annie S. Veech, of Louisville.

I sent first to each member of the committee an outline of possible standards with the request that each member criticize constructively each point made and return the criticism to me. When the majority of the committee agreed on one point to be added or taken from the outline I made the addition or omission and reconstructed a second copy of the standards. This outline was then sent to each member for further criticism. After much correspondence I called a meeting on May 2, 1925, in Washington. At this meeting were present Doctor Adair, Doctor Schwarz, Doctor McKay, Doctor Mosher, Dr. Alice Pickett (who was designated by Doctor Veech to act in her stead), and Doctor Kraker, acting director of the maternity and infant-hygiene division of the Children's Bureau.

At the very beginning of the correspondence with the various members it became clear that only by compromise could any such group of physicians agree on what was essential for an outline on prenatal care which would not be too bulky. Each one made concessions on certain details which he would like to have included in the standards. The result is this outline which you now have in your hands and which I wish to go over with you point by point.

It has been demonstrated for many years that prenatal care is an important part of the care of the pregnant woman if the happiness, health, and life of the mother and the child are to be preserved. If that is so—and I think every one of you will agree that it is a true statement—every pregnant woman should be under medical supervision during her entire pregnancy. Even if a woman is under constant supervision the pregnancy and labor can not be wholly safe; but it can be made safer than it now is.

Throughout these standards we are insisting that the facts which are obtained be recorded; in other words, that there be a history of every pregnant patient who comes under the care of the physician or the clinic. The patient's history must be gone into. The diseases that she has had, particularly whether there is tuberculosis in her

history or exposure to tuberculosis, must be known. Scarlet fever, tonsillitis, rheumatism, and diphtheria are especially to be noted; for you all know of the complications that may arise either in the kidneys or in the heart from these acute infectious diseases. Surgical conditions and operations, especially abdominal or pelvic operations, must be recorded. The patient's menstrual history, its cycle, the amount of flow, duration, and whether or not pain is present must also be recorded.

Next comes the question of previous pregnancies and labors if the patient is a multigravida. It must be insisted that the data of all previous pregnancies be obtained. That means abortions, miscarriages, and criminal abortions as well as full-term pregnancies; for many patients will tell only of full-term babies and will give no inkling that they have had abortions unless they are questioned carefully. In regard to each pregnancy the following points must be determined: The date of termination, the period of gestation, and any complications that occurred during pregnancy; the type of labor; its onset, whether it was spontaneous or induced; the duration of labor; and how that labor terminated, whether it was spontaneous (a normal delivery) or artificial (an operative delivery); and, if it was operative, by what method the delivery was accomplished. The puerperium must be inquired into—whether the patient made a normal convalescence, whether infection was present, whether any hemorrhage took place, or whether any operation followed a stormy convalescence. The outcome of these pregnancies must also be known—whether the baby was alive or dead at birth, whether maceration was present, and whether the baby came at term or was premature. The duration of breast feeding, if breast feeding was possible, must be recorded; and finally it must be known whether the babies are now alive, and, if they died, what they died from, especially if they died within the first two weeks of life.

Then follow the details in regard to the present pregnancy. What were the character and date of the last menstruation? Inquire carefully whether that period was an absolutely normal period, for an abnormal period may be the first suggestion of an extra-uterine pregnancy, or it may be due to the fact that pregnancy began just before a period rather than after the period. If that is known it may explain at a later date the fact that the fundus is enlarging more rapidly than was expected. Determine whether the patient is having nausea and vomiting, and how severe this is. If she is far enough advanced in her pregnancy find out when she first felt life. In the absence of definite menstrual dates the time when the patient felt life will help to a slight extent to determine when the labor may be expected; but do not be too certain that life is felt at the half-way point, for it is a very variable phenomenon. From the date of the last menstruation we estimate the date of the delivery.

With this history obtained we then proceed to a physical examination. This we insist upon as a necessary part of prenatal care, a part that all too seldom is done in a satisfactory manner. Whether or not physicians proceed in the physical examination in the order that we have suggested is of course immaterial. These are, however, the main points that must be recorded. Again we insist that the

recording of the facts obtained is most important. The blood pressure has come to be an essential part of prenatal care. It is just as imperative for a physician to take the blood pressure when he sees his pregnant patients as it is for him to go about visiting his patients with his bag and his stethoscope or with his thermometer. Without it satisfactory prenatal work can not be carried out. The systolic and diastolic readings must be taken, the patient's temperature and pulse recorded, and the weight taken. We all agreed that the weight is a significant item of the prenatal care, for many of us have come to feel that a patient who gains rapidly during her pregnancy is much more apt to develop a toxemia of pregnancy and a possible eclampsia than one whose weight is kept within normal limits. The patient's general nutrition, the chest examination, inspection of her breasts, mouth, and extremities are all essential. Then comes the abdominal examination with careful palpation; and auscultation of the fetal heart if the patient is far enough advanced.

Relatively very few pregnant patients have a vaginal examination the first time they appear in a physician's office. Make it clear when you talk over these standards that vaginal examinations during the last month of normal gestation should not be made without strict aseptic precautions; and at no time, if vaginal bleeding is present, should a vaginal examination be made without these precautions. Why do we suggest that a vaginal examination is necessary early in pregnancy? Especially to determine the existence of a pregnancy. You all have known of patients who have been carried along for months only to have it determined that they are not pregnant or that some abnormal pregnancy exists. A vaginal examination determines the probability of a pregnancy and whether there is anything abnormal in the position of the uterus or whether any pelvic tumor is present. The presence of a venereal disease is discovered—a fact extremely important to know early not only for the welfare of the mother but for that of the baby also. A speculum examination of the cervix is advised because of the many cases that present an eroded cervix and may show troublesome bleeding. If this occurs it causes the physician and the patient much annoyance unless the source of the bleeding is established.

We suggest that the pelvic measurements be taken at this first visit of the patient to the physician. Whether or not it is done at the first time is really immaterial. The point is that if they are taken the first time, it is done and out of the way, and there will be no slip-up later—for you will all agree that pelvic measurements must be taken in the course of the pregnancy. I do not think it is necessary that pelvic measurements be taken in multigravidæ who have had average-sized children without difficulty. The measurements suggested are the usual ones which tell the size and the type of the pelvis. They are the intercrystal, the interspinous, the external conjugate, the diagonal conjugate, and the transverse diameter of the outlet. When you come to talk over these pelvic measurements you may be questioned as to how they are to be taken, and you must know. I assume that you do know how they are taken. There is one point to be remembered: That in taking the transverse diameter of the outlet the physicians may not all have the little outlet pelvimeter, but they all have fists; and after the palpation of the

pelvic contours, the sacrum, the coccyx and ischial spines, and the attempt to reach the promontory the fist can be rocked between the tuberosities; and, knowing what the fist measures, one very quickly determines whether the outlet is contracted.

The blood must be taken for a Wassermann reaction and sent to a laboratory of unquestioned standing. Wassermanns are taken as a routine throughout the country in all the large clinics, but they are seldom taken as a routine in private work. It should be the routine in private as well as in hospital work, for only thus will be found the occasional syphilitic case which may give the patient untold misery unless it is discovered early.

The routine urinalysis must be done, and if there is any suggestion of urinary complications, a microscopic examination of the sediment is necessary; and in many cases a 24-hour specimen must be obtained.

When this complete physical examination is done and it is determined that the patient is pregnant, the physician must give minute instructions to the patient in regard to the hygiene of pregnancy. Fortunately we have some excellent publications of the Children's Bureau and of the various State health departments on the hygiene of pregnancy, and if the physician is busy and in a hurry there is no reason why these publications should not be given to the patient to read over carefully. At the next visit to the physician the patient may ask about any of the points in the pamphlets which she does not understand. My feeling is that in a busy clinic these publications should be given to each patient.

Let me go over with you the various points in more detail than the mere list which you have before you:

A. Diet. The chief point to be made clear to the patient is that she must have a generous mixed diet—that is, the essential elements that go to make up a well-balanced ration, proteids, fats, carbohydrates, a liberal amount of water, and a satisfactory amount of mineral matter. When the nausea is present six small meals a day rather than the usual three will give much relief. The old saying that a pregnant woman must eat for two has long since been exploded, and I have already spoken of the untoward results that may come when a patient puts on a great amount of weight, because of the danger of a toxemia of pregnancy. She must be warned not to listen to her friends about the food that she should eat, for she may eat any kind of food that she knows she can digest. If she has an idiosyncrasy for any type of food, of course that food must be eliminated from her dietary during her pregnancy. The proteid element in the food puts the greatest strain on the kidneys, and the patient must be advised to have a low proteid intake, especially in the latter part of her pregnancy. However, there is absolutely no need that she eliminate all meat, fish, and eggs the last two or three months of pregnancy, as many women think they must. Too high an intake of fats and carbohydrates makes the patient gain rapidly and will frequently cause considerable indigestion. When the patient is eating too much carbohydrate food, sugar frequently appears in the urine; and unless it is quickly cleared serious damage may result. Milk, fruit, and vegetables (especially the leafy ones) add to the vitamins and mineral substances that are needed during pregnancy, also to

the amount of water taken. If the patient is heavy and fat the drinking of much milk is questionable; and the calcium may be given to advantage in the form of the carbonate. Drinking at least eight glasses of water a day throughout the pregnancy must be insisted upon. Coffee and tea must be used in moderation, and alcohol should be omitted.

B. Exercise, rest, sleep, and recreation. The physician should find out to what exercise the patient has been accustomed and determine whether she should be allowed to continue the same amount. Strenuous athletic exercise should be prohibited. Walking is the best possible exercise for the pregnant patient. How much she can walk depends wholly upon whether or not she feels fatigue. A simple rule is that if the patient comes back from a walk and after resting for half an hour gets up feeling refreshed she has not walked too far; but if she is fatigued or is unable to sleep that night the length of the walk should be reduced. Many patients get much exercise in their housework, but they must be cautioned about overdoing, lifting heavy pieces of furniture, or doing a hard day's washing. Of course this hard housework can not be avoided by all patients, but each must be told to do as little work as possible at the time when she would be menstruating if she were not pregnant. She must be made to comprehend that the uterus is more irritable at what would be a menstrual period were she not pregnant than at any other time during the month and that therefore the liability to a miscarriage is greater.

The question of whether or not a patient shall work in mills often arises. Various legislative bodies have recognized the fact that pregnant women should not work up to the date of delivery. The law regarding this varies in different parts of the country, and obviously it is a difficult thing to enforce. The fact, however, remains that pregnant patients should not be employed in mills for any length of time. If a pregnant patient thinks she must work in a mill, she should be allowed to have periods of rest in the morning and in the afternoon.

We appreciate that it is difficult for many patients to obtain the rest which is so needful in order to have them go through their pregnancies in good condition, but if we constantly reiterate that rest is a necessary part of their well-being many more will take it than think they can at the present time.

Eight hours' sleep every night is essential. Many women get along for a while on less sleep than this, but sooner or later the lack of sleep begins to show itself in various ways. Many patients have in early pregnancy an uncontrollable sleepiness which at times greatly upsets them. If careful examination shows everything to be normal we can assure the patient that it will very shortly wear off and need be no cause for alarm. On the other hand, it may be one of the symptoms of a toxemia of pregnancy; and until this is ruled out we must not regard it as negligible.

Recreation is extremely necessary for pregnant women. The humdrum existence that many housewives lead is a serious obstacle to their well-being, and patients need periods of play as well as of work. They must be cautioned about taking long automobile rides over rough roads. Long touring is a common cause of abortion, and the automobile should be forbidden if the patient has ever shown the

slightest suggestion of miscarrying. I see no reason why she should not drive herself, provided she drives carefully and slowly over good roads; but if automobiling causes backaches and other discomforts it should be stopped. Each physician feels differently in regard to the various types of recreation which a patient may take, according to the results which he has seen arise from these forms of recreation.

C. The chief points to be remembered in regard to the clothing are that the clothes must be warm, and at no time should they be allowed to be tight around the abdomen. Garments that hang from the shoulders are to be preferred. The corsets for the first three or four months of the pregnancy may be the ones which the patient has been accustomed to using unless she has a pendulous abdomen. Such a woman will feel more comfortable if she puts on a maternity corset early. There are many satisfactory makes of maternity corset. One that is satisfactory for one patient will not suit the next; nor is it necessary that every patient wear corsets during her pregnancy, for many women go through quite comfortably without any corset. If, however, unpleasant bearing-down and pulling sensations develop, then well-fitting, comfortable corsets will give support. The high-heeled shoes of the present-day fashion put a severe strain on the patient's back muscles and should not be allowed. Low-heeled, well-fitting, well-shaped shoes should be worn.

D, E, and F. The patient's skin must be kept in good active condition, for this is one of the three means of excretion. A daily warm bath keeps the body clean and the pores wide open. It is well to explain to the patient that as the pregnancy advances and the abdomen enlarges little red lines may appear, due to the stretching of the skin. This stretching often gives a sensation of burning and tingling. Nothing need be done in regard to these lines except to assure the patient that no harm will come from them. External applications occasionally make them feel a little more comfortable but will not eradicate them. The marked pigmentation that sometimes appears, especially in brunettes, is annoying; but I know of nothing that will prevent it. The patient may be assured that it will all disappear after pregnancy and that in the course of a few weeks she will regain her former complexion.

Even more necessary than the care of the skin is the care of the bowels and the kidneys. The patient must have at least one good dejection a day. Recall to her the reason for this—that the baby is growing rapidly and the products of not only her own metabolism but of the baby's metabolism must be eliminated, and that this is done by the skin, bowels, and kidneys. This will impress upon her the necessity of keeping her bowels free. Many patients dislike to take a cathartic in pregnancy because of the fear of forming the habit; but even if this fear is reasonable the daily movement is essential. If a satisfactory movement is not obtained by regulation of the diet a cathartic must be taken. The milder ones work satisfactorily in the majority of cases but they may have to be changed as the pregnancy advances. The kidneys should secrete at least 3 pints of urine in every 24 hours. The 24-hour amount of urine should be measured occasionally, and the patient will probably have to be told how to do this. This amount can not be secreted unless the patient is drinking from six to eight glasses of

water a day. The patient must be warned that the passing of high-colored urine at any time must be reported to the physician.

G. The care of the teeth. Patients must have impressed upon them the advisability of having their teeth looked after during their pregnancy. Apparently there has been a deep-rooted idea among the laity that women should have no dentistry done while they are pregnant. You have all heard the old saying "For every child a tooth." Necessary work must be done, and there is not any reason why a needed extraction should not be performed; but difficult, painful work that can be avoided should be avoided. Patients should be advised about brushing their teeth regularly after every meal; and if during the nausea period there is much belching up of acid-tasting secretion the mouth must be washed out with an alkaline mouth wash.

H. Care of the breasts. Each physician probably has his own idea of how the breasts should be looked after during pregnancy. It varies considerably in different parts of the country. The only thing that I would suggest to you is that patients be warned not to pick off the crusts that come on the nipples the last few months of pregnancy. Infection may result from this, and it is much better for them to put on some simple ointment on retiring at night. At the bath in the morning the incrustations can be removed easily.

I. Intercourse during pregnancy. Every patient should be told that there may be a risk of abortion in the early months of pregnancy as a result of intercourse. It should be advised against at what would be a menstrual period were the patient not pregnant. Intercourse in the middle three months is of less risk than at other times, but it should be forbidden absolutely in the last two months of pregnancy because of the danger of infection.

J. Maternal impressions. I suppose it is reasonable for any patient at some time or other during pregnancy to wonder whether her child will be well formed and without any congenital marks. That is a perfectly natural thing. She must be told, however, that there is no such thing as maternal impressions. No baby is "marked" because of some unpleasant sight which the mother saw during pregnancy. From a physiological standpoint there is no possibility that such a thing as this can occur, and it is well to make this clear to patients early in their pregnancy. The cause of malformations and congenital markings we do not know, but we do know that the beginnings of these take place very early in the pregnancy, probably before the patient herself realizes that she is pregnant.

K. Hygiene of the home and preparation for home delivery. There is scarcely time for me to go into this subject in detail, but if the patient is to be delivered at home the preparations for a home delivery must be gone over in minute detail at some time in the course of the visits to her physician, so that the necessary things will be ready for the delivery at least a month before the expected date of confinement. This list is a variable one depending greatly upon the economic status of the patient. The absolutely essential things are relatively few. There are many things that may be added to the layout which increase the comfort of the patient.

L. Mental hygiene. It is not strange that most patients in their first pregnancy should have many misgivings of the outcome of the labor; and early in the pregnancy the physician should straighten

out their point of view in every possible way. Exactly when this ought to be done is not always easy to determine, but in one of the first few visits of the patient to the physician the opportunity to explain the phenomenon of labor will come up, and by it great reassurance may be given the patient. Friends are apt to tell the patient of the tragedies of childbirth. These can readily be explained, her point of view can be improved, and it can be made clear to her that if patients are looked after throughout their pregnancies these grave disasters are very, very rare. A candid talk will do more than anything else to give her a proper attitude toward her pregnancy and delivery. Exactly how one is to speak to each patient depends wholly upon the things which are bothering that patient. No two patients are alike, and therefore the physician does not talk in the same way to all.

There are the instructions that should be given to a patient very soon in her pregnancy. The first visit of the patient to her physician is a most important one and can not be gone over hurriedly and in a few moments. Such an outline as I have described to you can not be carried out in less than an hour. It is an hour well spent, not only for the patient but also for the physician. The patient's state of mind is helped materially, and the physician determines what her condition is early in the pregnancy.

The patient should be seen by the physician at least once a month during the first six months, then every two weeks or oftener as indications arise; and in the last month weekly visits are in many cases advisable. A properly qualified nurse may work in conjunction with the physician in the observation of the patient. The nurse, however, must not assume any responsibility for her medical supervision; and her visits do not take the place of visits to the physician. When the patient is far removed from the physician such visits by a nurse are of help, but they do not in any way lessen the physician's responsibility for keeping watch over the patient.

At every visit to the physician the patient's general condition must be investigated, the blood pressure taken, urinalysis done, and the pulse and temperature taken. The patient's weight should be carefully followed, if possible. If the pelvic measurements were not taken at the first visit, they must be taken before the seventh month. Pelvimetry is only suggestive. It does not prove that a disproportion is present. For that reason it is most important that abdominal palpation be carefully carried out. Abdominal palpation in the eighth and ninth months shows whether or not there is any obvious disproportion between the fetus and the pelvis, and if there is obvious disproportion the proper method of delivery must be determined. In many cases malpositions can be determined and may be corrected. It must always be known before labor begins whether a possible disproportion is present and whether in a primigravida there is descent of the presenting part into the pelvis. If a disproportion does exist—and every physician should be able to determine this—special care must be taken to avoid vaginal examinations just prior to or after the onset of labor because of the danger of serious infection should any operative procedure later become necessary. The individual patient must be studied. The physician must never assume that everything is normal. It must be known in every case that no disproportion is

present. If the prospective labor offers a probable chance of being difficult, the patient should be sent to a well-equipped hospital for delivery.

We all appreciate that pregnancy is a physiological condition, but because of the fact that it may quickly become pathological it is necessary to instruct each patient at her first visit to report to the physician any untoward symptoms. Whether physicians go over the list as we have given it, or whether they make the statement to the patient that she must be absolutely well at all times and that anything abnormal must be reported at once is immaterial. Pain in the lower abdomen and vaginal bleeding must be reported at once. A bleeding case calls for investigation, for it is only by careful oversight and study that the mortality in such cases can be cut down. It is because many physicians regard slight bleeding as not abnormal or of not enough importance to investigate that we obtain such bad results in the bleeding cases. It must be made clear that when a bleeding case does appear and a vaginal examination becomes necessary, it must be done under strict aseptic precautions. If a hospital is not available means must be at hand to control any hemorrhage that may occur.

Rarely does a toxemia of pregnancy develop overnight. It is usually of slow onset, and only by careful medical supervision and treatment can an eclamptic condition be prevented. Cooperation between the patient and the physician is essential. If either fails eclampsia may develop and disastrous results follow. But with constant vigilance on the part of the physician and cooperation on the part of the patient the number of eclamptic cases which occur throughout the country can be greatly diminished.

When a patient is to be looked after by a midwife arrangements should be made for the patient to have the prenatal care to which all prospective mothers are entitled. If in this prenatal care it has been seen that a normal delivery is not likely to occur the patient should be transferred from the care of a midwife to that of a physician or a clinic. By careful prenatal care it is possible to overcome the bad results of lack of supervision of midwives.

I can hear many of you say that such standards as we have outlined for prenatal care are impossible to carry out successfully. I agree with you that at the present time these standards can not be fully carried out. I am sure you realize, however, that each year there are thousands of deaths which are due chiefly to the lack of prenatal care; and we must overcome this situation. Difficult operative work is done in emergencies, and the results are not good. The majority of deaths in obstetrical work come from two preventable causes, puerperal septicemia and albuminuria and convulsions. Prenatal care will reduce the deaths from septicemia because it will determine before labor begins which are the difficult cases and will lower the number of vaginal examinations that are necessary. It will also lower the deaths from convulsions because the preeclamptic condition is discovered and proper medical treatment is carried out early. Without prenatal care the conditions that are present throughout the country will continue, and it is for this reason that we insist that the standard aimed at must be high. We admit it is a standard which at the present time can not be insisted upon; yet

the only way in which we can approach it is to urge that you directors, when you go back to your various States, take these pamphlets and talk about the standards not only to groups of physicians and nurses but to the women of the States as well. Explain to them the reason for prenatal care. Show to them the dire results which come from the lack of prenatal care, and also show them that childbirth can be made much safer with this care. Make it clear to them that it is an insurance for their safe delivery, for it is well known that the careful physicians throughout the country who give intelligent prenatal care to their patients lose practically no patients, that there are few stillbirths in the practice of these men, and very few deaths in the first few weeks of the life of the infant.

Do not give the idea, when you talk of prenatal care, that it is a panacea for all the obstetric mortality in the country. Prenatal care means medical supervision of the pregnant woman. It will not prevent all the emergencies that arise in obstetric work. But good obstetrics can not be done without it, and what we need is that good obstetrics be available to every pregnant woman. Prenatal care is a means to this end, and if we are to accomplish this our standards must be high.

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