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CONGRATULATIONS AND WELCOME TO MY PRACTICE

Pregnancy is an exciting, scary, natural and wonderful event. Over the next few months, I will guide you through the changes you are undergoing and keep watch over your health and that of your baby. An uncomplicated pregnancy may require only routine screening and little intervention, while, if problems arise, a vast array of technologies are available to achieve the best possible outcome for your pregnancy. In either case, I want you to understand what is happening and why I might recommend certain tests or treatments.

Please ask me any questions you have, at any time, no matter how simple or silly you feel they are. If something bothers you, we should address it. I also encourage you to have your partner actively involved in your pregnancy. Bring them to office visits and sonograms. Encourage them to ask me all the questions they ask you about what is going on. This will help them understand and support you throughout your pregnancy and be ready to care for you during labor and beyond.

During your pregnancy, you will be making many visits to my office. I try to keep to the appointment schedule, but deliveries, emergency visits or patients with unexpectedly complex problems may cause me to run late. For this I apologize in advance and ask for your understanding. Feel free to call my office on the day of your appointment to check if I am, or likely to be, behind.

The following sheets contain some basic information about pregnancy and antepartum care. Although we will discuss these topics and others during your visits, you may find the material useful for reference. Write down questions that come up between your visits and bring them with you, otherwise you <u>will</u> forget them.

OUTLINE AND VISIT SCHEDULE

(Any complications, pre-term labor, twins, diabetes, etc. will require more frequent visits.)

WEEK	
0	Beginning of last menstrual period (if regular 28-day cycle)
2	Approximate date of conception
4	Missed period
6	First visit, then every 4 weeks until 28 weeks
8	
10	Cell free fetal DNA testing (NIPT) Maternal Carrier screening CVS, if chosen
12	Nuchal Scan
16	AFP (alphafetoprotein) Amniocentesis, if chosen Early Fetal Anatomy Sonogram
18	First 1- hour glucose test, if high risk for gestational diabetes Fetal anatomy sonogram
20	
22	
24	Register for Lamaze classes
26	
28	Lamaze classes begin Visits every three weeks First, and only, glucose test if low risk; second for high risk Rhogam, if necessary
30	
	Third glucose test, if high risk
32	
34	Visits every two weeks; close observation of fetal growth
36	Visits every week
38	
40	BABY IS DUE!!! NSTs (Non-Stress Tests) if pregnancy goes beyond 40+ weeks
42	Probable induction of labor at 41-42 weeks if still not delivered (5-10% of pregnancies)

ROUTINE VISITS AND TESTING

During your first obstetrical visit, which is relatively long and comprehensive, we will engage in extensive discussion and perform multiple tests. You undoubtedly have many questions for me about pregnancy, testing, delivery and my approaches to them. Similarly, I want to get to know you, your medical history, and your philosophy on medical care.

We review your medical, surgical, obstetrical history and family history in detail to ascertain any factors which might change your care in this pregnancy.

I perform a complete physical examination which includes your baseline blood pressure, height and weight, checking your uterine size and obtaining a PAP smear (if you have not had one in the past year) and cervical cultures to screen for organisms which might affect the pregnancy and other things. A vaginal sonogram will also be performed.

One very important aspect of the first visit is establishing the "dating" of your pregnancy: when is the baby due? Pregnancies are traditionally dated from the first day of your last menstrual period. Forty weeks from that day is taken as your "due date." If your periods are irregular or you have been through IVF, dating by last menstrual period may not be accurate, and your date of conception, insemination, retrieval and early sonogram is used for the calculation. Early, accurate estimation of gestational age is essential.

The due date derived from this information can then be compared to the size of the fetus on vaginal sonogram, which will be completed in my office. Unless there is a large discrepancy, we will use the dating based on your estimated last menstrual period.

Be aware that your "due date" is only approximate, and that considering a two-week period around that day as a "delivery window" is more appropriate. Indeed, up to 10% of normal pregnancies last 42 weeks.

Patients undergoing any screening tests should understand the difference between screening and diagnostic tests. This is particularly important in genetic screening where couples need to understand what is and is not being screened for, the interpretation of positive and negative results, the possibility of false positive and negative results, follow up invasive or noninvasive testing and possible reproductive choices.

We will discuss available screening and testing for genetic abnormalities. At the conclusion of the visit, you will be directed to the lab to complete a standard panel of tests required for pregnancy evaluation. These tests include blood type and antibody screen, blood count, documentation of certain immunities, infectious disease, carrier status for multiple genetic abnormalities, hemoglobinopathies, HIV testing and several other tests. Additional blood tests in women at risk for specific conditions will be added.

Subsequent visits monitor your health as well as the growth and well-being of the baby. I monitor weight and blood pressure. I measure baby growth and heart rate, as well as other indicators of good health, such as fluid amount and baby movement.

We will discuss the changes you are undergoing and any problems you may be having. Write down your questions. It is too easy to forget them in the bustle of the visit.

In the third trimester, at approximately 26-28 weeks, a few of the blood tests are repeated to check for anemia or the development of antibodies to blood cells. If your blood type is "negative," you will receive an injection, "Rhogam," around 28 weeks to prevent your making antibodies against the baby's blood. You would also get the injection after CVS, amnio, or an episode of vaginal bleeding.

All pregnancies are screened for the development of gestational diabetes which can delay fetal maturity and increase the rate of stillbirths. If anyone in your immediate family has diabetes, you are considered at increased risk and will be tested three times; 18, 26 and 32 weeks. Low-risk patients are only screened once, at 26-28 weeks. The test involves drinking, on an empty stomach, a very sweet drink followed by a blood sugar draw one hour later. If the level is elevated, a three-hour test will be done involving double the amount of sweet drink, and four blood tests, the results of which determine if treatment is needed.

TESTING FOR ANOMALIES

Although our ability to screen for congenital conditions has grown dramatically over the past few years, no one test or combination of tests can predict all fetal abnormalities and problems. Between 2 and 4% of all newborns have some anomaly, many minor, but others severe. If you, the baby's father, sperm donor, .or anyone in your families has an inherited disease or birth defect, your baby may be at a higher risk. We will discuss these issues at your first visit to determine the testing appropriate for your pregnancy.

NUCHAL SCAN is performed between 10 ½ and 13 ½ weeks gestation. It is a sonogram that measures the thickness of the back of the fetal neck. The results of this scan are combined with the results of five blood markers to provide a risk of Down Syndrome specific to each patient. This combined test detects approximately 85% of Down Syndrome with a false positive of 5%. It can also detect Trisomy 18 and 13. Abnormal combined test results will prompt further testing with cell free DNA testing and/or invasive testing such as amniocentesis.

AFP is a fetal specific protein produced by the baby. Maternal serum AFP (MSAFP) is a screening test performed on your blood between 15 ½ and 20 weeks. An elevated level may indicate an anatomical fetal problem, such as a neural tube defect. A decreased level may indicate a chromosomal abnormality such as Down Syndrome. Either result would prompt further investigation and testing. Even so, most babies whose mothers have abnormal AFP levels are found to be normal.

CELL FREE DNA TESTING or non-invasive prenatal testing (NIPT,) is a maternal blood test performed in my office after 10 ½ weeks. This is a screening test that has a reported sensitivity of 99% for Down Syndrome, Trisomy 18, Trisomy 13 and several microdeletion abnormalities. This test also predicts gender relatively accurately.

MATERNAL/PATERNAL CARRIER SCREENING is a blood test that tests for 502 different diseases for which you may be a carrier. A carrier does not necessarily display the disease but has the potential to pass the disease to the child if the partner is also a carrier for the same disease. Partners can be tested at the same time or only if the maternal blood test returns with a positive carrier status.

SONOGRAMS use high frequency sound waves to create a picture of internal organs, including the baby. X-rays are not used and no harmful effects from ultrasound have ever been substantiated. I perform a vaginal sonogram at your first visit to confirm the size and location of the pregnancy. Most subsequent visits will incorporate a sonogram to check position, amniotic fluid and heartbeat. Later, around 16-21 weeks, more detailed sonograms will examine your baby's anatomy. This scan is used for many purposes including confirmation of gestational age, identification of congenital abnormalities and evaluation of the placenta, amniotic fluid and growth. Many, but not all, structural abnormalities can be seen on sonogram.

Although many parts of the sonogram will be unrecognizable to you during the anatomy scan, the technician can show you pictures of specific sites of interest to you.

The sonogram *may* be able to tell the gender of your baby, depending mostly on the position of the legs. If you do not want to know, be sure to tell the sonographer, who may then ask you to look away during parts of the scan. Only genetic studies (see below) can definitively identify a baby's gender.

INVASIVE TESTING

Check with your insurance company for coverage of these procedures

CVS (chronic villus sampling) is a procedure in which small samples of the placenta are obtained for prenatal genetic testing. CVS is typically performed under ultrasound guidance between 10 ½ and 13 weeks gestation. It can be performed transabdominally or transcervically. This will be determined by the physician performing the procedure. The placental cells are examined for chromosomal abnormalities, the most common of which is Down Syndrome (Trisomy 21,) which accounts for about ½ of all chromosomal anomalies. A FISH, Karyotype and Microarray can be analyzed from the CVS sample. The tests to be completed will be determined by you and either the genetic counselor or physician performing the procedure. CVS carries an approximate 1-2% risk of miscarriage.

If your family history suggests it, other studies on the fetal cells can check for the specific mutations (alterations) that cause such conditions as sickle cell disease or muscular dystrophy. Genetic counselors can advise you on the chances of your baby's being affected to help you decide if you want any of these tests performed.

AMNIOCENTESIS is a procedure where a small sample of amniotic fluid is obtained under ultrasound guidance transabdominally for the purpose of genetic testing. Amniocentesis is typically performed between 15 and 17 weeks gestation. Amniocentesis carries approximately .6 - 1% risk of miscarriage. Other possible complications include fetal injury, bleeding, cramping, infection and leakage of amniotic fluid with an occurrence rate of 1%. FISH,

Karyotype, Microarray and AFP can be tested on an amniocentesis sample. Discuss what testing is appropriate for you with the physician who performs your amniocentesis.

FISH (fluorescence in situ hybridization) testing provides **limited** karyotype results between 24 – 48 hours on the CVS or amniocentesis samples. It detects Trisomy 13, 18 and 21 (Down Syndrome,) as well as some sex chromosome X and Y abnormalities. Decisions should not be undertaken based upon FISH results alone because false positives can occur.

KARYOTYPE (Chromosome Analysis) is used to detect changes in large regions of chromosomes obtained by amniocentesis and CVS.

MICROARRAY ANALYSIS is thought of as a super magnified karyotype. It can be used to identify abnormalities in smaller regions then karyotype analysis. The added pick-up rate over karyotype alone is 1%. The downside is an occasional detection rate of abnormal karyotype of unknown significance.

There has been some reports in the literature that CVS might cause fetal limb abnormalities in a small number of cases (+/- 1/100.) Most of these reports involved the use of larger sampling catheters and earlier procedures than are performed now. Moreover, none of the large multi-center trials involving thousands of patients showed an increase in defects over the spontaneously occurring baseline.

Although amniocentesis, may be associated with a lower loss rate than CVS, it obtains results at a more advanced gestational age when termination of an abnormal pregnancy would be more complicated, slightly more risky and possibly more emotionally difficult. CVS, on the other hand, *may* have a higher rate of procedure-related miscarriage.

None of these choices is easy. You should seek all the advice you want and need before making your decision.

DIET

Eating a normal healthy diet is all pregnancy requires, though I suggest the added restrictions below. You need extra calcium and protein later in pregnancy, 300-500 extra calories a day. Drinking three to four glasses of skim milk per day will meet these needs, but if this quantity of dairy products is intolerable, you can take Os Cal 500mg (or equivalent) a day and obtain more protein from other sources (fish, poultry, lean meat.) Pre-natal vitamins and DHA (omega 3) supply the other minerals and trace elements you and your baby need, though if nausea prevents you from stomaching them for the first couple of months, no harm is done. Extra vitamin supplements, as with any medication whether prescribed by a doctor or not, should not be taken without speaking to me first. Even vitamins, A especially, has been known to cause birth defects.

During the first few months of pregnancy, all this advice may be beside the point. Just finding a single food that does not make you feel nauseated may be the week's highlight. Don't despair. This phase passes, usually by the 12-14th week. The pregnancy is small enough during this period that it can derive all its requirements from your reserves even if your weight drops

slightly. By week 20, most women have gained a few pounds. From then on, the average gain is ½ lb pound per week for a total of around 25lbs. This figure varies widely and within the range of 15-35 lbs. and there is rarely cause for concern. Remember though: pregnancy is NOT a time to lose weight, or to gain as little as possible so as to have less to lose at the end. New elements and proteins are needed for normal fetal development.

Even after the early nausea dies down, your digestive system may not seem "normal." Some of the hormones present in your body slow and relax the intestinal muscle, leading to heartburn, early fullness and constipation. Small frequent meals, antacids (Tums, Maalox, Mylanta, etc.), and lots of fiber and water are the solutions here. You should be drinking 4-6 glasses of water a day.

The following list of suggested prohibitions is neither complete nor absolute. Relatively few substances have been proven to cause birth defects. Many more, sometimes it feels like all others, have been suspected. It seems prudent to avoid as many chemical additives and exposures as possible, recognizing that complete purity is not to be found in the Tri-State area.

- No medications, prescriptions, or over-the-counter, except an occasional Tylenol, without speaking to me first.
- No sushi or raw meat (These may contain parasites.)
- No caffeine (The data is not all in, but best to be avoided, if possible. If you need that cup of coffee in the morning, make it your only one.)
- No artificial sweeteners.
- No alcohol.
- No smoked foods or pork (may contain nitrates.)
- No oysters, mussels or clams unless well-cooked (hepatitis A contamination.)
- No unwashed fruits or vegetables (Unless organically grown, these may have pesticide residues.)
- No smoking or vaping (Linked to inadequate fetal growth and premature delivery.)
- A maximum of 12oz. of fish per week. The following fish should be avoided: swordfish, shark, king mackerel.
- No deli meats.
- No soft or unpasteurized cheeses.

ANIMALS

Avoid contact with cat litter boxes and all rodents.

EXERCISE

As long as your pregnancy is uncomplicated, you should continue to exercise regularly. You may need to alter your chosen activity as your body changes and your balance becomes less sure.

Sports, which might lead to abdominal injury, primarily from falling, are best avoided after the first few months.

You should scale back your activity to avoid over-exhaustion and dehydration. Be sure to keep your pulse under than 120. Please avoid saunas and hot-tubs.

TRAVEL

In the current COVID-19 pandemic all to most travel should be avoided. When the pandemic subsides, the following routine pregnancy travel precautions are recommended.

Without complications, pregnancy poses no barrier to travel, although I do not suggest air travel after 34 weeks. You should get up to stretch and walk every couple of hours to prevent cramps and the possibility of a blood clot.

Avoid high risk areas to minimize exposure to infectious diseases such as malaria, yellow fever and zika infection. The CDC updates areas of travel with potential for exposure. Please consult their site prior to travel.

If you will be out of the area for an extended period, we will arrange for you to have a copy of your records.

Some airlines will require a "doctor's note" for you to fly late in pregnancy; ask for one if you think you might need it.

The usual traveler's advice to avoid uncooked, undercooked or unwashed foods and potentially unpurified water in underdeveloped areas applies even more strongly during pregnancy.

Many immunizations and prophylactic medications are either absolutely or relatively contra-indicated, which may limit your choice of destination. Please consult the CDC website to choose destinations that are pathogen free for both you and your partner. If you or your partner travel to at risk areas before or during pregnancy, please inform me.

SEX

Continued sexual activity, including intercourse, poses no danger to you or the baby in an uncomplicated pregnancy. As your body grows, you may find certain positions awkward or uncomfortable. Similarly, your desire for sex may increase or decrease at different times during the pregnancy, as may your partner's (and not always in sync.) These changes are a normal part of the emotional adjustment you both are making to your pregnancy and impending parenthood. Talk with each other about these changes and feel free to discuss any concerns or questions with me.

EMERGENCIES

For emergencies and deliveries, I can be reached 24 hours a day via my secretary, Michelle or answering service (both can be reached via 212-734-1893.) They will take your information, number and I will call you back as soon as possible. For other problems or questions that need to be addressed before your next visit, call my office during working hours and I will get back to

you. Please provide as much information as possible about the situation. This allows me not only to respond most rapidly to serious emergencies, but also to be better prepared to answer your questions when I call.

If, for some reason, in an emergency situation only, you feel the need to speak to someone before I have gotten back to you, call Lenox Hill Hospital Labor and Delivery and ask to speak with one of the doctors or nurses at 212-434-2760.

ANY OF THE FOLLOWING SHOULD PROMPT AN IMMEDIATE CALL TO MY OFFICE:

- **A decrease in the baby's movement.**
- **Vaginal bleeding.**
- **Persistent leaking of fluid from the vagina.**
- **Fever and chills.**
- **Persistent lower abdominal cramping or pain, menstrual-like cramps, or increased pelvic pressure prior to 36 weeks.**
- **Severe headache or blurred vision.**

DELIVERIES

I deliver all of my patients in the Lenox Hill Hospital Labor and Delivery suite. The address is 100 East 77 Street, 6th floor, New York, NY. The Labor and Delivery floor is open 24 hours a day for evaluation after 20 weeks gestation. Prior to 20 weeks gestation, the Emergency Room is utilized.

This will be an exciting, scary and wonderful journey. I will guide you through to make it a joyful, pleasant experience, all the while watching diligently over your health and the health of your baby. Please do not hesitate to ask any questions. I look forward to being the first to welcome your baby into the world!