Society for Maternal•Fetal Medicine

Preconception Care

Many women believe that the keys to a healthy pregnancy are a healthy diet and regular exercise during pregnancy. Moreover, many women take the likelihood of a successful pregnancy as a foregone conclusion. In actuality, a healthy pregnancy begins 6 months to a year before conception. Many medical conditions and previous pregnancy complications that increase the chance of adverse pregnancy outcomes can be addressed and optimized during this preconception period in the hopes of improving pregnancy outcomes. Medications can be adjusted, diseases can be controlled, nutrition supplements can be started, and contraception can be used until time is optimal for conception. In addition, plans for evaluating women for risk of pregnancy complications can be developed so that the most effective treatments can be made available.

Women with medical conditions such as diabetes, hypertension, seizure disorders, systemic lupus erythematous (SLE), and inflammatory bowel disease (IBD) are at increased risk for specific pregnancy complications and require planning for future pregnancies. Women with diabetes are at high risk for having an infant with birth defects, especially heart defects and spina bifida, fetal growth abnormalities, and stillbirth. In addition, diabetic pregnant women are at increased risk for high blood pressure complications. Women should have their blood sugars tightly controlled with hemoglobin A1C concentration in the normal range and take folic acid supplements at least three months prior to conception. Careful maternal blood sugar control decreases the risk of many of the above complications. Although underutilized, preconception care programs have consistently been associated with decreased perinatal morbidity and mortality. Specifically, patients enrolled in preconception diabetes care programs have a lower hemoglobin A1C at conception and initiate prenatal care earlier.

Similar to diabetes, it is important for women with hypertension to be well controlled on optimal medications prior to conception. Although well controlled, some women with hypertension may be taking medications that increase the risk of fetal heart defects and renal dysfunction. Ideally, women should be switched to safer medications prior to attempting conception. With these modifications, women can maintain healthy blood pressures and decrease their risk for birth defects.

Women with a seizure disorder can have complicated pregnancies. These women are also at risk for having babies with birth defects, especially spina bifida. These women should take folic acid supplementation for at least three months prior to conception. Controlling the seizure frequency is also very important. Simplifying the medication regimen to as few medications as possible and limiting the use of the medications associated with birth defects is an integral part of preconception care for women with a seizure disorder. Similarly, women with SLE and IBD, as well as a number of other medical complications, can safely have successful pregnancies when attention is paid to optimizing their medical condition prior to conception. In particular for SLE and IBD, these women have healthier pregnancies when their disease is controlled (without flares) for at least 3 months before conceiving.

Women with a prior spontaneous preterm birth are at increased risk for recurrence in a subsequent pregnancy. Delaying a subsequent conception by 18 months with appropriate contraception may significantly decrease the risk of recurrent preterm birth. In addition, the inter-pregnancy interval allows physicians time to investigate potential etiologies of the preterm birth and recommend a plan for risk evaluation and management in a subsequent pregnancy. Similarly, women with preeclampsia in a prior pregnancy have a higher risk of recurrence of preeclampsia in a subsequent pregnancy, especially if it developed preterm. Initiation of aspirin early in a subsequent pregnancy can reduce recurrence. Additionally, many of these patients may in fact have hypertension that was not treated or was undiagnosed at the time of the initial pregnancy. Appropriate management is critical to achieving a successful subsequent pregnancy.

These are only a few examples of potential issues where preconception care can impact pregnancy outcomes. In reality, nearly two-thirds of reproductive age women in the US have a medical, obstetric or social issue that can be addressed or modified prior to pregnancy in an effort to improve pregnancy outcomes. Moreover, growing evidence suggests that pregnancy is truly a "window into future health." Women who had gestational diabetes mellitus are at increased risk for developing type 2 diabetes mellitus while those with pre-eclampsia and fetal growth restriction are at increased risk for cardiovascular and metabolic disease later in life. Preconception care provides an opportunity, therefore, to improve not only pregnancy outcomes but also maternal health in the long term. There is also increasing evidence that the children of women with gestational diabetes or pre-eclampsia may be at increased risk for adult onset disorders such as diabetes and hypertension. Thus, optimizing the maternal condition prior to pregnancy can improve future health not only of the mother but also of her child.

MFM subspecialists play a key role in the preconception evaluation of women to optimize maternal and perinatal outcomes. The MFM subspecialists' training and experience in the un-routine allows for an experienced preconception consultation with women with underlying illness, previous adverse pregnancy outcome or considering advanced reproductive technology.

Key Points:

- Optimal pregnancy outcomes occur when pregnancy is planned.
- Medical status optimization and appropriate medication management prior to conception is critical.
- A preconception consultation with an MFM subspecialist should be performed in order to discuss strategies to improve health prior to conception to optimize pregnancy outcomes. Additionally, risk stratification can be performed and a pre-pregnancy and pregnancy management plan can be developed.