



Accelerating research towards a cure for multiple sclerosis

Pregnancy – Maternity Leave from MS Symptoms?

Up until the 1950's women with MS were counseled to avoid pregnancy because of the belief that it might make their MS worse. In fact, researchers have since determined the opposite is true. Higher levels of natural corticosteroids and estrogen are present during pregnancy. These hormones have an anti-inflammatory and seemingly neuro-protective affect, such that relapses decrease by about 70 percent during the second and third trimesters.



Pregnancy is also known to be associated with an increase in a number of circulating proteins and other factors that are natural immunosuppressants. This positive effect is not long lasting, however, as relapse rates tend to rise postpartum and then return to pre-pregnancy levels. Over the long term, pregnancy does not have a significant impact on overall disability level.

MS is prevalent in women of childbearing age, many of whom share concerns about MS and its treatments during pregnancy and following childbirth. If couples living with MS are considering pregnancy, it is important for them to form a support team that includes a neurologist, an

obstetrician and a pediatrician (postpartum) to help sort through any concerns they may have, and develop strategies to resolve them. For those struggling despite their support team's efforts, the National MS Society also provides [guidance and encouragement](#) through any challenges couples may face.

MS does not affect fertility. As a result, couples seeking to avoid pregnancy need to make the same decisions about contraceptive use as anyone else. Any form of birth control can be used, although some medications used to treat MS symptoms (for example, steroids) may reduce the effectiveness of oral contraceptives. With this in mind, women with MS should consult their support team on any potential drug interactions. Some women with impaired use of their upper extremities or decreased sensation may have mechanical difficulty using barrier methods of contraception, such as a diaphragm.

Women who use corticosteroids for acute MS relapses may continue to use them during pregnancy. The most commonly used steroid, Solu-Medrol (methylprednisolone), is



metabolized before it crosses the placenta, and therefore poses no threat to the fetus. The same is true for prednisone, even at high doses. [Research](#) has shown corticosteroids can make it into the breast milk, however, so most doctors suggest stopping them while breastfeeding. Should a course of steroids be necessary while nursing,

extra breast milk can be pumped beforehand and stored for use during treatment.

None of the available disease-modifying therapies (DMTs) are approved for use during pregnancy, as almost all have been associated with potential fetal harm in animal or human studies. While some of these medications cause fewer complications, others are highly toxic. The Food and Drug Administration divides medications into five categories based on their level of toxicity – categories A, B, C, D and X, with category A being the least dangerous. MS DMTs fall into categories B, C and X. Copaxone (glatiramer acetate) is a Category B medication, meaning it shows no risk in animal models, however there aren't adequate studies in pregnant women to make any determination about risk in humans. Some neurologists permit use of Copaxone until the point of conception. The interferons (Betaseron, Avonex, and Rebif) and Tysabri (natalizumab) are Category C medications. These show an adverse effect on the fetus in animal studies, but again, there are insufficient data to know the risk in humans. The benefits of using a category C DMT during pregnancy must be weighed against its potential risks. Most neurologists recommend a washout period (one full menstrual cycle) before trying

to conceive. Novantrone (mitoxantrone) is a category X medication (fetal abnormalities have been demonstrated in animal and human studies). In general, Novantrone should not be used during pregnancy, as the risks involved clearly outweigh potential benefits.



A woman can resume her DMT immediately following delivery unless she is planning to breastfeed. If her disease has been particularly active prior to and during pregnancy, the recommendation may be for her to resume her medication as soon as possible. To limit the time off medication, many find it helpful to learn their “fertility window” (the time of month when you are most likely to conceive). [Ovulation kits](#) are

commercially available for this purpose. Support teams can recommend other ways to help with timing, too. In women with active disease, it may be appropriate to defer attempting pregnancy until disease activity is under satisfactory control. It’s important to note that some symptomatic therapies for MS, such as anti-spasticity agents, antidepressants and medications for bladder control are category C drugs, and their use during pregnancy should be discussed with the support team. Doctors typically advise women to avoid taking any of these medications while pregnant or breastfeeding.

[MRI’s](#) are generally thought to be safe during the second and third trimesters of pregnancy. However, there aren’t sufficient data available to know their safety during the first trimester, when most of the fetal organs and body structures are formed. Gadolinium contrast is known to be harmful to the fetus, as well as infants. Therefore, MRI’s even without contrast should be avoided during the first trimester, and gadolinium enhanced MRI’s should generally be avoided at any time during pregnancy. A woman who requires a contrast enhanced MRI while breastfeeding should pump and dispose of the breast milk for 24 hours after receiving the gadolinium.

Though most of the impact of pregnancy on MS is positive, there are a few things to keep in mind. Women with MS will likely need close monitoring to keep track of their disease and the health of the fetus, leading to more frequent prenatal visits. Those with gait difficulties may find these worsen during late pregnancy as they become heavier and their center of gravity shifts. Assistive devices for ambulation, or a wheelchair may be helpful under these circumstances. Bladder and bowel problems, which occur in many pregnant women, may be aggravated in women with MS who have pre-existing urinary or bowel dysfunction. MS

patients may also be more subject to fatigue. Women with MS have a higher risk of depression during pregnancy and especially right after they give birth.

In general, there are no special considerations for women with MS with regards to labor and delivery. However, if there is a loss of sensation below the waist and weakness in the pelvic muscles, a woman may not feel pain with contractions. This would make it hard to tell when labor starts. In this case, close observation is necessary during the last month of pregnancy and drugs or other procedures to induce labor may be necessary. If fatigue or muscle weakness impacts the ability to push, special tools can be used to help deliver naturally, or a C-section may be necessary. All forms of anesthesia and medications to block pain (including injections called [epidurals](#)) are considered safe for women with MS.



Relapse rates tend to rise in the first three to six months after delivery, and return to pre-pregnancy levels over time. These postpartum exacerbations do not appear to contribute to overall disability long-term. [Studies show](#) those women who have had more disease activity prior to and during pregnancy, are more at risk for developing postpartum relapses. Therefore, good postpartum care is important. Depending on the patient's disease activity before and during pregnancy, as well as her desire to breastfeed, neurologists often recommend women go back on DMT to prevent postpartum relapses.

As alluded to previously, none of the DMTs are considered safe for use in nursing mothers because there is insufficient information as to whether the medications are excreted into breast milk. Therefore, women who are breastfeeding should discuss their medication options with their support team. But also, just like with pregnancy, breastfeeding seems to improve MS symptoms. A [recent study](#) showed that women who breastfeed exclusively (without bottle supplementation) for at least the first two months had a lower risk of relapse. However, any decision regarding breastfeeding should take into account the medications a woman needs to resume taking postpartum for disease or symptom management.

From a genetics standpoint, couples living with MS can be reassured that MS will not cause any harm to their baby. MS is not a directly inherited disease. While genes are important determinants of a person's risk for MS, they are not the only factor. Rather, it's thought to occur due to a combination of genetic factors, environmental factors and immune factors. In general, women with MS have normal, healthy pregnancies. If you want to start a family, having MS doesn't have to stand in your way.

