Women's Health and Multiple Sclerosis





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FOREWORD

MS affects more women than men and is often diagnosed in women in their twenties and thirties. It is not known why this is the case, but the reasons are thought to be complex. There are several issues that specifically concern women with MS. Why are more women affected? Do hormones play a role? Does menstruation make symptoms worse? Which medications need to be stopped before pregnancy and breastfeeding, and when? Will the condition affect pregnancy or childbirth? Will MS impact hormone therapy and the symptoms of menopause?

MS AND HORMONES

MS is thought to be an autoimmune illness, and like many other autoimmune conditions, affects more women than men. ¹ In Canada, the ratio of women to men with MS is about 3:1 and is most frequently diagnosed in premenopausal women. Reproductive hormones, including 'female' hormones like estrogen and progesterone, but also testosterone – affect much more than a woman's reproductive system. There is growing evidence to suggest hormones influence the immune and nervous systems, and play a role in MS. ^{1,2,3,4}

The only large-scale study in this area is the trial of estriol (one of the estrogens that rises dramatically during pregnancy) as an add-on therapy to Copaxone in women with MS. The study showed a possible, but small, effect on relapse rate. ⁵ More research is needed to see if the endocrine system – the bodily system that produces hormones – is compromised in people who have MS.

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MENSTRUATION

Women with MS often report that their symptoms feel worse at certain points in their menstrual cycle, typically just before their menstrual cycle, but there is limited research about the effect of menstruation on MS. In one study a questionnaire was given to 149 women; of these women, 70 per cent noted that their MS symptoms seemed to change at a regular time in their cycle. ⁶ They reported that the changes, usually involving a worsening of symptoms, occurred up to seven days before, and up to three days into, their period. Symptoms most commonly reported were weakness, imbalance, fatigue and depression.

Possible mechanisms for this worsening include known fluctuations in the immune system and the brain across the menstrual cycle. Worsening of symptoms around a woman's menstrual periods could also be related to other factors such as heat. Just before a menstrual period, and during the second half of a women's menstrual cycle, the core body temperature rises by about one degree Celsius. This increase in temperature can make MS symptoms feel worse in the same way that hot environments and fevers can.

Effects of drugs on the menstrual cycle

Certain drugs used to treat MS may cause irregular, lighter or heavier periods. These include certain disease modifying therapies and symptom management medications. Speak to your healthcare team to learn more about the potential effects of medications on your menstrual cycle. If you experience any side effects, mention them to your healthcare team. Some of these side effects often improve on their own after several months of taking the treatment.

Problems with managing menstrual periods

Some women with MS find that managing periods can become problematic or difficult. For example, some may find using feminine hygiene products becomes awkward due to symptoms such as tremor or limited mobility in the arms yet would rather not have help with this task. If dealing with periods becomes problematic, you may consider ways of minimizing periods or even stopping them altogether. There are various ways of doing this, such as using certain types of contraceptive pills, known as continuous pills, or hormone-based intrauterine devices (sometimes known as 'IUDs'). If you are considering this, it's important to discuss all the options with your healthcare provider.

CONTRACEPTION

As MS doesn't affect fertility, the usual decisions about birth control need to be made. Finding the right method of contraception is important for all women, and women with MS can generally use any of the contraceptive methods available. When making choices about contraception it's a good idea to consider factors such as manual dexterity and coordination, other medications you are taking, possible risk of infections, as well as your personal preferences. It is also important to discuss your options with a healthcare provider as some methods of contraception may not be appropriate in your individual case or you may need additional precautions.

For example, diaphragms may increase the likelihood of urinary tract infections and may not be advisable if you have bladder problems. They can also be difficult to insert if you have limited dexterity. If you have limited mobility and choose oral contraceptives, you may need extra monitoring as there is an increased risk of blood clots occurring in the veins located in the legs. The usual monitoring related to weight, smoking and so on will be required as they would for any other woman contemplating oral contraceptives.

Intrauterine devices (IUD)

An IUD is a tiny T-shaped device placed in to the uterus to prevent pregnancy. IUDs are highly-effective, longterm and reversible contraceptive options that are reliable because they do not depend on personal behaviors (such as remembering to take a pill or to insert a diaphragm). There are two types of IUDs: one is made of copper and the other contains levonorgestrel, a progestin hormone. Copper IUDs can remain in the uterus for approximately 12 years, while the hormone-based IUD will need to be replaced every 3-5 years, depending on the product being used. Both types of IUDs must be inserted by a physician or nurse.

Contraceptive pills

There is a very low risk of pregnancy when a suitable oral contraceptive is taken as prescribed, and many women find either the combined pill (estrogen and progesterone-based) or progesterone only pill suits them. Women need to be aware that certain medications for MS symptoms can make the contraceptive pill less effective. The same applies for certain complementary therapies, such as St John's Wort (hypericum extract) sometimes used for depression. Some antibiotics can also affect the way contraceptive pills work. You should therefore talk to your healthcare provider about any medications you are taking, so they can assess potential interactions or if there is a need for additional protection (such as condoms or other barrier-type contraceptives).

Research on oral contraceptives and MS

There is strong evidence to show that oral contraceptives do not increase the risk of developing MS, nor increase the risk of a MS relapse (attack). All hormone-based types of contraception can have side effects, so it is important to discuss these options with your healthcare practitioner. ⁷

Contraceptive Injections

Progesterone injections are available on a three-month basis and are also very effective but may not be suitable for all women. Progesterone injections may cause loss of bone mineral density so women with reduced mobility or history of corticosteroid therapy should be monitored for bone health. ⁸

Contraceptive implant (not available in Canada)

The implant is a flexible plastic rod (approximately the size of a matchstick) placed under the skin of the upper arm. The implant releases a low, steady dose of a progestational hormone for up to three years. The implants thicken cervical mucus and thin the lining of the uterus preventing sperm from entering.

Combined hormonal contraceptives (CHCs)

CHCs include low-dose combined oral contraceptives, hormone patch, and vaginal ring. CHCs carry an increased risk of venous thromboembolism (blood clot) therefore women with prolonged mobility issues may benefit from a different type of contraception.

Hormonal contraception patch

The hormonal contraceptive patch is applied to the skin on one of the following areas: buttocks (bum), lower abdomen, upper arm, or upper torso (excluding breasts). A new patch is place on the skin each week for three weeks and releases the hormones estrogen and progestin into your bloodstream to prevent pregnancy.

Hormonal Contraceptive Ring (vaginal ring)

The vaginal ring is a small, flexible plastic ring that is self-inserted into the vagina close to the cervix. It contains the hormones estrogen and/ or progesterone, depending on the product prescribed. The ring remains in place for three consecutive weeks. Women who experience upper limb spasticity or difficulty with dexterity may not find this type of contraception an optimal choice.

SEX, INTIMACY AND RELATIONSHIPS

Nerve damage caused by MS can have an impact on sexual function, and the symptoms of MS can affect mood, interest in sex, and sexual activity. These physical problems with sex and the impact of MS on people's feelings about sex and relationships are discussed in more detail in the MS Society of Canada resource Intimacy and Sexuality in Multiple Sclerosis.

DECIDING TO HAVE A BABY

Many women who have MS are diagnosed between the ages 20 to 40, at a time when they may be thinking about starting or expanding a family. The major factors in the decision to become pregnant for women with MS are likely to be the same as for other women: how will having a child affect my life and is this the right time? It is a very personal decision and when thinking about it, consideration should be given to current and future emotional, financial and medical factors.

Having MS is no reason not to have a baby, although it may mean that careful planning with family, friends and your healthcare provider becomes more important. It will help if you find a healthcare provider who will discuss any issues or concerns with you in a supportive manner.

PREGNANCY

Does MS affect my ability to get pregnant?

MS does not affect women's fertility. However, some drugs used to treat MS may have an effect on the menstrual cycle; and some medications are unsafe during pregnancy. If stopping treatment to avoid exposure of the medication to the baby, women are typically advised to wait 5 times longer than the medication's "half-life". 9 Half-life refers to the period of time needed for the concentration of the drug to reach half of its original value. Because all drugs are different, the half-life will vary considerably across the MS medications, and the waiting time can range from several days, to 3-4 months. The exception here is teriflunomide (Aubagio®), where specific procedures are recommended to eliminate the medication in a woman's bloodstream before she conceives a baby.

It is important to discuss your medications with your healthcare provider before making any changes as it can be dangerous to stop taking some medications suddenly. Women are strongly encouraged to review the warnings and safety data related to the medication they are taking (or prior to taking) and pregnancy/breastfeeding in consultation with their healthcare provider. Please also see the section 'Medications and pregnancy'.

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Assisted reproductive technologies (ART)

Though multiple sclerosis does not affect fertility, issues with fertility may exist for other reasons and some women may undergo assisted reproductive technologies to try and conceive. Research has suggested that women living with MS who use ART (including in-vitro fertilization) have an increased risk of relapse following ART, especially in situations where the ART was not successful (pregnancy was not achieved). ^{10,11} Possible reasons for risk of increased disease activity may be related to discontinuation of MS disease modifying therapies, increased levels of stress due to infertility and immune changes from hormone-based fertility medications.

What are the risks of my child having MS?

MS is not directly inherited. The general population in North America runs about a 0.1-0.3% risk of developing MS. When a parent has MS, the risk of the child and siblings developing MS is small, increasing to between 1 and 3%. ¹² In other words, 97 to 99% will not develop MS.

How will having MS affect pregnancy or giving birth?

Having MS will not directly affect pregnancy, labour or giving birth. ² Several studies have shown that mothers with MS are just as likely as mothers without MS to have healthy pregnancies and babies, and there is no research to show MS may increase risk of ectopic pregnancy (where a fetus develops in the fallopian tube), miscarriage, premature birth, still-birth or birth abnormalities. ^{2,13}

It is generally advised that, as with other women, natural birth is a good option. Having MS does not mean there is a need for a caesarean section. ¹³ During birth itself, problems with weakness, spasms or stiffness in the legs can be managed with the assistance of a nurse or midwife. Many women opt for having an epidural for pain relief during birth. Both epidurals, and anaesthetics for caesarean births, are as safe in women with MS as in those without. ^{14,15}

Pregnancy and relapses

There have been many research studies examining the impact of pregnancy on MS. They all show that pregnancy appears to have a positive protective influence on the risk of MS relapses, with relapse rates going down, especially during the third trimester (between six and nine months). 1,2 The reasons for this are not fully understood, but it is thought that hormone levels play a role in allowing the immune system to be more "tolerant", to stop the body from rejecting the baby. 3,4,16,17 Consequently, the immune system is also less likely to attack the brain in MS. Similar effects are seen in women with other autoimmune conditions. 13 It is important to note that women who discontinue certain medications prior to pregnancy, such as fingolimod and natalizumab, could nonetheless experience relapses during pregnancy that are considered 'rebound relapses'. 18 For them, specific strategies may be used to prevent the risk of rebound relapses. 19

In the first three months after the baby is born, the risk of relapse rises. ^{1,17} This is thought to occur as hormones

return to pre-pregnancy levels. Combining the lower risk of relapses during pregnancy and the higher risk of relapses postpartum, overall, the risk of relapses seems similar for women with or without a pregnancy over the same time period.

Symptoms and pregnancy

Although women may have fewer relapses during pregnancy, other MS symptoms can be affected. Many women report that their fatigue becomes worse during pregnancy, but this can be managed by careful time planning. Balance and back pain can also get worse during pregnancy, as the extra weight of carrying a baby can cause a shift in the centre of gravity. Walking aids may be useful at this time and help prevent falls. Any preexisting bladder and bowel problems may also feel worse or become aggravated during pregnancy. A continence nurse or adviser can offer advice on how to manage these symptoms.

Medications and pregnancy

Before you start trying for a family, you should talk to your healthcare provider about your symptoms and any medications you are taking. As some medications are not advised during pregnancy, your healthcare provider may wish to review your prescriptions. If you find you become pregnant unexpectedly and have not had your medications reviewed, it is important that you consult your healthcare provider as soon as possible.

When determining whether you should stop taking a medication during pregnancy, your healthcare team will look at the risks that this would pose to you and the baby. However, the risks of many medications during pregnancy remain unknown, as any evidence of harmful effects in humans comes from a small number of cases where a woman has become pregnant when taking a medication. Overall, registries of women exposed to glatiramer acetate, interferons, and natalizumab, have been reassuring. ²⁰

If you do become pregnant while taking disease modifying drugs, you should consult your healthcare provider immediately as some of the medications can cause serious harm to the fetus. Before starting a medication, your healthcare provider will speak to you about pregnancy and medications. Steroids are relatively safe during pregnancy. ¹⁵ They are, however, generally avoided during the first three months when fetal organs are developing, and extra caution may be needed. In case of medications for other health conditions or symptoms, the general rule is to err on the side of caution.

However, if coming off medications (including antidepressants) would pose a serious risk to mother or baby, healthcare providers may advise that they should be continued, or opt for alternative drugs. Your healthcare provider may be able to advise you of ways to manage the symptoms that do not involve medication. All treatments can be resumed immediately after giving birth, although some may not be appropriate if you choose to breastfeed.

PLANNING FOR AFTER THE BIRTH

Whether or not you have MS, the time immediately after the birth can be very tiring and it can take time to adapt to the demands of having a baby to care for. For women with MS, planning to ensure there is support during this time is particularly important. You may wish to contact and make lists of family and friends who can help with specific tasks, and find out about health services, local service provisions for mothers and support groups. Many women find it reassuring to know local sources of support are available, and find early planning makes life easier when the baby is born.

Depending on your level of functioning, you may want to set up appointments for physical therapy and for pelvic floor physical therapy to help you recover from the pregnancy.

Is it possible to breastfeed?

MS should not prevent a woman from breastfeeding her baby. It is good nutrition for babies and in the general population it is generally recommended women breastfeed for the first six months (26 weeks). Breastfeeding can help build a baby's immune system; as well provide other health benefits for both mother and child. ²¹ Mothers with MS can be reassured that there is no increased risk of relapses associated with breastfeeding; in fact, breastfeeding may be mildly protective against relapses²², but not as effectively as the oral and infusible treatments. Due to lack of research to date on medication

levels in breastmilk, women are not advised to breastfeed if they are taking a disease modifying drug for MS as the medication may be excreted in breast milk. In such cases women may wish to delay returning to using disease modifying drugs and breastfeed for a few weeks — which is still beneficial. Some mothers with MS may choose to breastfeed for a shorter time of three or four months as they find it contributes to fatigue.

If you are planning to breastfeed, you may also wish to seek advice on specialized techniques such as positioning, as some MS symptoms may make standard breastfeeding positioning uncomfortable. ²³ You will also need to review your medications with your healthcare provider as some medications are not appropriate because of a risk they may be passed on to the baby via breast milk. ¹⁵

Alternatively, bottle feeding provides babies with all the nutrition they need and may make it a little easier to get help from others.

Preventing relapses after the birth

Some women choose to return to using disease modifying therapies very soon after the birth as they may reduce the number of relapses. However, depending on the specific therapy, it may not be appropriate if breastfeeding. If you would rather breastfeed your baby, but are concerned about relapses you are experiencing, moderate doses of some steroids, such as prednisone, are considered a safe treatment option. ²³

Other aspects of postpartum care

Given the increased risk of relapses in the first couple of months after the birth, when nearly all new mothers are feeling particularly tired anyway, it is important for extra help and support to be made available. You might find it useful to plan how family, friends and social services could help in advance. Health visitors, community-based children's centres and local disability organizations can also help.

MENOPAUSE

During menopause the body stops producing estrogen in any significant quantity. Some studies have suggested that the MS course worsens a little bit after menopause. ^{24,25} Symptoms, such as fatigue and bladder problems, can feel worse and menopausal hot flashes can temporarily aggravate women's MS symptoms. At the time, it can be beneficial for women to talk to their doctors about more intensive symptom management, rehabilitation care, and planning for the future.

Hormone therapy

Some women question whether hormone therapy – which replaces estrogen – can help with MS symptoms during menopause. Hormone therapy is not suitable for all women. It is not recommended for women who are more than ten years from their final menstrual period, or with a history of heavy smoking, thrombosis, certain cancers, or severe heart, liver or kidney disease. Hormone

therapy is also associated with an increased risk of developing breast cancer. ⁴

It is generally advised that women only take hormone therapy if they are having difficulty in dealing with the symptoms of menopause. It is recommended that women who decide to take hormone therapy have regular health checks and mammograms. Women considering hormone therapy should consult their healthcare provider to discuss the risks and benefits of hormone therapy. All types of hormone therapy can be used by women with MS; pills, patches and gels.

Periods of immobility, lack of exercise and prolonged use of steroids can increase the risk of osteoporosis. While hormone therapy can help with reducing further bone loss, women with a higher level of disability, who use a wheelchair most, or all of the time or have periods of prolonged bed rest, may be at increased risk of thrombosis or blood clots.

OSTEOPOROSIS

Osteoporosis can be a problem for some women with MS. This is particularly the case for women who are less mobile or who have had exposure to many doses of steroids. There are many ways you can help prevent osteoporosis including eating a healthy diet, regular exercise and supplements and/or medications. Osteoporosis Canada can also provide more information by visiting www.osteoporosis.ca

MS, DISEASE MODIFYING DRUGS AND CANCER

Some women have asked whether there is any link between MS, disease modifying drugs and cancer. This area has been researched and while most disease modifying therapies do not carry increased rates of cancer there are exceptions with newer disease modifying drugs. For information related to serious side effects of disease modifying therapies, speak to your prescribing neurologist or pharmacist.

RESOURCES

To obtain additional information regarding any of the topics discussed in this publication, please contact an MS Navigator at 1 844-859-6789 or by email at msnavigators@mssociety.ca or visit www.mssociety.ca for a list of MS Society of Canada publications.

Canadian Mental Health Association

Website: www.cmha.ca

Osteoporosis Canada

Website: www.osteoporosis.ca

Public Health Agency of Canada (PHAC)

Website: www.phac-aspc.gc.ca

The Society of Obstetricians and Gynaecologists of Canada (SOGC)

Website: www.sogc.org

Families Canada

Website: www.familiescanada.ca

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Our Mission

To be a leader in finding a cure for multiple sclerosis and enabling people affected by MS to enhance their quality of life.

