Article Series Helpful Resources Multiple Myeloma

Fertility in multiple myeloma: What is there to know?

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Treatments for multiple myeloma can impact your ability to have children (fertility). This article will summarize how these treatments can affect fertility and how your healthcare team can help you if you do want to start a family.

Some useful definitions are provided below:

- **Breastfeeding:** Feeding a child human breast milk
- **Hormone:** Chemical messengers in the body
- **Testosterone:** A hormone that is important for sex drive and getting an erection in men
- **Uterus:** A part of the female reproductive system where babies develop

1. **What is fertility?**

Fertility is the ability to have children (conceive). For men this is the ability to start a pregnancy (when a sperm fertilizes an egg), and for women this is the ability to get pregnant and give birth to a baby. In both men and women, several parts of the body work together to achieve this – collectively these parts of the body are called the **reproductive system**. Some multiple myeloma treatments can change how you feel about sex, and some can affect the reproductive system directly. All of these changes affect your fertility.

2. **Fertility in women**

Some multiple myeloma treatments may cause **infertility**. Infertility means that you can’t get pregnant. Your healthcare team will advise you on the potential risks to your fertility before they give you your treatment. You can speak to your healthcare team about having your fertility tested after you finish cancer treatment.

Different multiple myeloma treatments can cause different levels of infertility:

- **Temporary infertility** is when your period may become irregular or stop during treatment but will go back to normal when the treatment is over. It usually takes between 6 and 12 months for your period to get back to normal
- **Permanent infertility** is more likely when receiving higher drug doses. It is also more likely in older women, because they are closer to the age of natural menopause
- **Early menopause**. Menopause is when the ovaries completely stop producing the hormones needed for fertility (reproductive hormones). During early menopause, periods become irregular and stop, accompanied by symptoms such as hot flushes, dry skin, vaginal dryness, loss of energy, less interest in sex, mood swings, and low mood

Treatment for multiple myeloma can affect fertility in different ways, for example:

- **Chemotherapy** uses anti-cancer drugs to destroy cancer cells. It can also reduce the number of eggs stored in the ovaries or make your body release fewer or no eggs. This may cause temporary infertility, permanent infertility or early menopause
- **Radiotherapy** uses high-energy rays to destroy cancer cells. These can also damage the ovaries or eggs, uterus, or pituitary gland (all part of the reproductive system). The effect on fertility is dependent on the dose of radiotherapy and your age
- **Total body irradiation** is radiotherapy given to the whole body before a bone marrow or a donor stem cell transplant. This usually causes permanent infertility
- **Targeted therapy and immunotherapy** drugs kill cancer cells, either directly or by using the immune system. The effects of these drugs on fertility can vary depending on how each drug works, but many may reduce fertility

You can talk to your healthcare team about how your fertility may be affected by multiple myeloma treatment. They may refer you to a fertility clinic before cancer treatment is started. The fertility clinic will be able to talk about options that could allow you to have a baby in the future and discuss different ways of preserving your fertility. For example, they could suggest freezing your eggs or embryos, which can later be thawed and put into your uterus if you do decide to try to get pregnant. You may also be offered hormone treatment which temporarily stops your ovaries from working (ovarian suppression) during multiple myeloma treatment. This may protect your ovaries from the harmful effects of treatment and help to preserve your fertility.

3. **Fertility in men**

As in women, multiple myeloma treatment can cause **infertility** in men. This can be temporary or permanent and will depend on the drugs used, the dose taken, and the age of the person being treated. In men it can be difficult to tell whether the infertility is permanent or not. Your healthcare team will advise you on the potential risks to your fertility before they give you your treatment. To check your fertility, your healthcare team can do regular sperm counts for you when the treatment is

over.

Treatment for multiple myeloma can affect male fertility in different ways, for example:

- **Chemotherapy** uses anti-cancer drugs to destroy cancer cells. It can slow down or stop sperm production
- **Radiotherapy** uses high-energy rays to destroy cancer cells. Depending on where in the body it is targeted, it can affect sperm production and erections, and also reduce the levels of testosterone
- **Total body irradiation** is radiotherapy given to the whole body before a bone marrow or a donor stem cell transplant. This usually causes permanent infertility
- **Targeted therapy and immunotherapy** drugs kill cancer cells, either directly or by using the immune system. The effects of these drugs on fertility can vary depending on how each drug works, but many may reduce fertility

Before starting your multiple myeloma treatment, you can talk to your healthcare team about fertility. They may refer you to a fertility clinic before any treatment is started. Your fertility doctor can talk to you about fertility treatments that may help. They may advise you to consider “sperm banking”. This is the process of freezing and storing your sperm, which can be used in the future to help you and a partner try to have a baby.

4. **Multiple myeloma treatment during and after pregnancy**

There is a risk that some multiple myeloma treatments may cause harm to the developing fetus, and therefore cannot be used during pregnancy. Your healthcare team will discuss any risk with you before starting treatment, and both you and your baby will be carefully monitored throughout the course of your treatment.

Chemotherapy can usually be given after you are 14 weeks into the pregnancy, but before this time it is not recommended as there is potential to harm the developing baby or cause a miscarriage. Sometimes chemotherapy can be delayed until the baby is born, but this may not always be possible.

There is also a risk that some multiple myeloma treatments may be passed on to your baby through your breast milk. Your healthcare team will advise you about breastfeeding.

For women of a reproductive age, your healthcare team may advise you to use a suitable form of **contraception** to prevent pregnancy during multiple myeloma treatment. Your healthcare team will discuss all your available options and help you to reach a decision that is right for you.

5. **Getting help and support**

It can be very difficult to learn that your multiple myeloma treatment may lead to infertility. It can help to speak to your family and friends about your feelings and worries. Your healthcare team is also there to support you, and they may be able to refer you to a counselor or specialist nurse who can offer more guided support.

There are also **support groups** available should you wish to seek help in this way.