

IVF, Fertility and PGD

Pink Hope is a charity that supports women and families who have, or are at high risk of developing, breast and ovarian cancer. We provide information and quick tips on how to understand what options are available in these situations.

For many women with a recent cancer diagnosis and impending chemotherapy treatment, fertility might be a consideration. When you are first diagnosed with cancer, it might be hard to think beyond the coming stages of treatment. However if you are planning on starting or continuing a family, it might be important to consider your fertility options as well.

Chemotherapy targets cancer cells, but due to the toxic nature of the process it can affect other body processes at the same time. The chemicals may stop the ovaries from producing eggs temporarily, or more permanently. This won't affect everyone, but is worth some consideration. The good news is there are steps you can take to plan ahead of these potential problems, such as IVF.

IVF

Before you start chemotherapy, it might be worth speaking to a fertility specialist to see how your fertility could be affected and how you can plan ahead. As chemotherapy may lower egg production in your ovaries, one option might be having an egg retrieval for IVF.

IVF, or in vitro fertilisation, is a process performed by a fertility specialist in which eggs are taken from the female and mixed in a culture dish with sperm from their partner to form embryos. In this case, the fertilised embryo would then be frozen and kept until you are recovered ready to have it placed back in the uterus for pregnancy. This would ensure that you still have access to your eggs, even if your body stops producing them due to the cancer treatment.

For more information: ivf.com.au

Tips



A good place to start is to chat to your health care professionals such as your GP or your oncologist. Ask them about your fertility status and how your cancer treatment may affect it.



If you feel like you need someone to chat to who can relate to your situation, join our online support groups to talk to people in a similar position.



When visiting your GP, oncologist or a fertility specialist, come with a list of questions and concerns. You have enough on your mind so take the time to write down what you're confused about so you don't forget to ask.



Always rely on health care professionals for answers.



Find out which fertility specialists in your area have a specialty in cancer.

Questions About IVF For Your GP, Oncologist or Fertility Specialist



- How many eggs will be retrieved and what does this mean?
- How are the eggs retrieved?
- How much will it cost?
- How do hormone injections work?
- Are there any side effects?
- How long does the process take?
- What are the chances of the embryo being viable after thawing?
- What are the chances of successful pregnancy after embryo implementation?

PGD

Another benefit of IVF is the possibility of pre-implantation genetic diagnosis, or PGD. PGD is a process that screens embryos to identify which, if any, carry a genetic disease. In the case of breast cancer, there are 2 gene mutations which are associated with an increased risk of cancer development. BRCA1 and BRCA2 gene mutations are markers of an inherited predisposition to breast and ovarian cancer. This means that if a person has these gene mutations, they are more likely to be at risk of developing breast cancer. These gene mutations tend to appear in families with a history of breast and ovarian cancer, as it is acquired hereditarily. PGD offers the option to screen IVF embryos to select for ones that do not display this mutation, thereby decreasing the child's risk of breast and ovarian cancer development to normal levels.

For more information: ivf.com.au

Tips



Talk to your health professional about your BRCA status and what this means.



Discuss with your doctor what the risk is of your children inheriting the gene mutations.



Ask about implantation process.



Ask your doctor about what kinds of side effects can happen from the IVF drugs.



Be prepared for whatever the outcome may be – not every implantation works first go.



Have a good support network around you as it can be quite an emotional journey.

Questions About PGD



- If an embryo has a BRCA1 or BRCA2 mutation, what are the chances of developing breast or ovarian cancer?
- How long will PGD take?
- How much will it cost?
- How accurate is it?

Sarah's Story

Sarah was 29 when she was diagnosed with breast cancer. It was a shock to her, as was having to consider her future fertility at such a young age. In the midst of her diagnosis, while planning to start chemotherapy, **it was suggested that she see a fertility specialist about the impact of treatment and the possibility of IVF.**

As Sarah and her husband wanted to start a family in the future, they discussed the possibility of infertility and decided that they wanted to look into freezing some of their embryos. After discussion with various health professionals (and bringing lots of questions to their meetings) the decision was easy for them, as the cost was affordable and her oncologist said chemotherapy could be delayed one cycle.

In preparation for IVF, Sarah had to start injecting herself with hormones daily to boost her ovulation. She had heard this could affect your mood in the same way the increase in hormones does with PMS, though she said she wasn't too badly affected. Sarah found the egg retrieval painful, leaving her sore for a couple of days, but resulted in the formation of 5 embryos. Sarah found this disappointing as she had expected more to develop, but the hormone injections can stimulate ovaries in varying levels in different people.

A few weeks after she finished her treatment, she fell pregnant naturally despite her situation, that year giving birth to her daughter, Mikayla. This is when Sarah became curious about the genetics of breast cancer and whether she carried the associated gene mutations. She contacted Peter MacCallum, a well renowned cancer centre, about genetic testing. She found out she carried a BRCA1 mutation, one that is associated with an increased risk of breast and ovarian cancer. This discovery lead Sarah to consider surgery as a permanent means of reducing her genetically increased risk. She decided to have a bilateral mastectomy and to begin planning for another baby to complete their family before she had her ovaries removed. She had less luck in conceiving a baby naturally this time, and turned to her fertility specialist for help in implanting her IVF embryos. At this stage Sarah and her husband discussed the possibility of PGD. They decided against it for various reasons, one being they didn't feel it fair to give a BRCA1-free option to one child and not to have given it to the other.



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They went forward with IVF and much to Sarah's surprise, of the 5 embryos that were frozen, only 2 survived the thawing process. The implementation did not succeed, but soon after Sarah became naturally pregnant again, giving birth to Jackson that year.

Sarah's experience came with some valuable insights. Statistics are just statistics and you can land at either end of the scale, as shown when $\frac{3}{4}$ embryos are supposed to thaw effectively, and less than half of Sarah's did. She was lucky that her cancer was triple negative, as some other hormone positive cancers may not be able to receive the hormone boosts needed for IVF, all situations are different. Sarah had good counselling through the IVF centre that helped her consider all her options, down to what to do with embryos when they are no longer needed. Her IVF costs were affordable at \$800, but others had experiences ranging from no charge to \$9,000, so it is worth looking around and asking the direct cost in every consultation. To talk to other people in similar situations, Sarah used online support groups and forums to connect with others and found it informative and supportive. She suggests the BCNA fertility resource as a good overview of information, but highlights that it does not replace professional medical advice.

Despite her fertility and IVF struggles, Sarah was happy she went through with IVF. She says it gave her hope while she was going through treatment, and she believes the hormones and drugs she took for IVF and implantation helped her to fall pregnant naturally on both occasions. Sarah said she has come across many women who had been through breast cancer and regretted not considering IVF, and she is glad she doesn't have that regret. Though IVF may not be for everyone, she strongly suggests for all women of childbearing age to discuss their options with a fertility specialist prior to starting chemo.

To download the BCNA fertility resource pamphlet go to:
<http://www.bcna.org.au/>