The Royal Children's Hospital Fertility Preservation Service
Fertility Preservation Information Sheet for Adolescent and Young Women Undergoing Cancer Treatment

What Is Fertility Preservation?
Fertility preservation is a process that has the potential to preserve a person's ability to have a biological child in the future. This includes the freezing of healthy ovarian tissue and mature eggs.

Why Do I Need to Think About Fertility Preservation?
Having children may not have been something that you have thought about. However, many young people do feel that fertility preservation is something that should be discussed before starting chemotherapy and/or radiotherapy has they may affect fertility. You may be thinking that you don't want to have children but you may change your mind when you are older so it is important to keep your options open for the future.

Potential Impact of Cancer Treatment on Fertility
Cancer treatments such as chemotherapy and radiotherapy may reduce the number of eggs in the ovaries. Depending on the severity, this can sometimes affect hormone production, periods and fertility. Your Oncologist will outline the estimated impact of treatment on your fertility (low, medium or high risk). Unfortunately, it can be difficult to be precise about risk this due to limited data.

How Does Chemotherapy Affect Fertility?
Chemotherapy drugs enter the blood stream and travel around the body searching for cancer cells to destroy. Unfortunately, this medication can also target cells in the ovaries and reduce the number of eggs. Eggs produce a hormone called oestrogen which cause puberty and periods. After treatment, if egg numbers are reduced, there is a possibility that menopause may start earlier than other women and the opportunity to have a baby can be reduced.

How Does Radiotherapy Affect Fertility?
Radiotherapy destroys cancer cells (it stops cell division and cell repair). If the ovaries are exposed to radiotherapy, then eggs can be destroyed but the impact depends on the dose and where the therapy is directed. Total body radiation carries a high risk of causing infertility. If radiotherapy is required to treat a brain tumour, the hormone messages from the brain to the ovaries can be disrupted causing the ovaries to become inactive. However, the ovaries can be triggered into developing mature eggs via hormone stimulation (IVF) in the future.

What Options Are Available to Me?
1. Ovarian Tissue Cryopreservation (OTCP): this is the collection of healthy ovarian tissue, via laparoscopy (also known as 'keyhole' surgery), prior to starting cancer treatment. It involves removing at least 1/2 of the covering of the ovary (this is called the cortex, where the eggs are stored). The tissue is preserved and frozen until you are ready to think about starting a family. Approximatively 200 births have been reported worldwide using ovarian tissue cryopreservation technology.
2. Egg freezing: if there is time before you start your cancer treatment you may be able to complete an egg freezing cycle. An egg freezing cycle stimulates the ovaries to grow a number of follicles and mature a number of eggs which can be collected and frozen until you are ready to think

about starting a family. Egg freezing can sometimes be done after treatment if the doses of treatment are not too high.

3. Zoladex®: this is a hormone injection that suppresses ovarian function and may protect the ovaries. There is some data in older women to suggest it may protect fertility but the protection is likely to be small. Zoladex® is also used to suppress menstruation during chemotherapy. Zoladex may cause side effects such as hot flushes or dryness in the vagina. These symptoms can occur with cancer treatment alone. They can be easily treated.
4. Egg donation from a female relative or other donor in the future.
5. Fostering or adoption.

What About During and After Cancer Treatment?

Our Gynaecology team here at RCH are available to you for discussion about a range of topics. These include: periods, contraception, relationships, how you are feeling about your body, fertility monitoring and any other concerns you may have. All teenagers at the RCH are allowed to speak to doctors privately. Please ask your treating Oncologist to refer you if you would like to speak with a Gynaecologist.

Who Do I Contact For Further Information?

For further information, please contact the Oncofertility team at RCH.

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