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BEFORE

Begin Exploring Fertility Options, Risks & Expectations

A decision aid
for young breast cancer
patients in Canada

fertilityaid.rethinkbreastcancer.com

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Do you wonder if your cancer treatment will affect your fertility?

Use this decision aid to learn more about your fertility options before and after treatment. This information can help you make an informed decision that is right for you.

Who is this for?

Young adults with breast cancer who are interested in learning more about the fertility options in Canada. The information presented may not apply to people outside of Canada or people with other cancers.

Please note: this decision aid is for anyone born with ovaries, regardless of gender identity. If you are gender non-conforming, talk to members of your healthcare team for more personalized advice on fertility.

Please note: the information in this decision aid is not intended to replace the information given by your healthcare team. This decision aid will only give you an overview of the fertility options. These options may not be suitable for everyone.

What does it include?

- information about breast cancer treatments that can affect your fertility
- fertility options available before and after your cancer treatment
- an exercise to help you think about the fertility options that may be best for you
- sample questions to ask your healthcare team
- resources for more information and support

How do I use it?

Read each section of this decision aid. Complete the exercise on pages 20 to 23 if you need help thinking about the fertility options that may be best for you. Also visit our online decision aid fertilityaid.rethinkbreastcancer.com for more information.

We suggest that you:

- share this decision aid with your partner or support persons
- talk with your healthcare team for specific information about your fertility options

Section 1

- Background

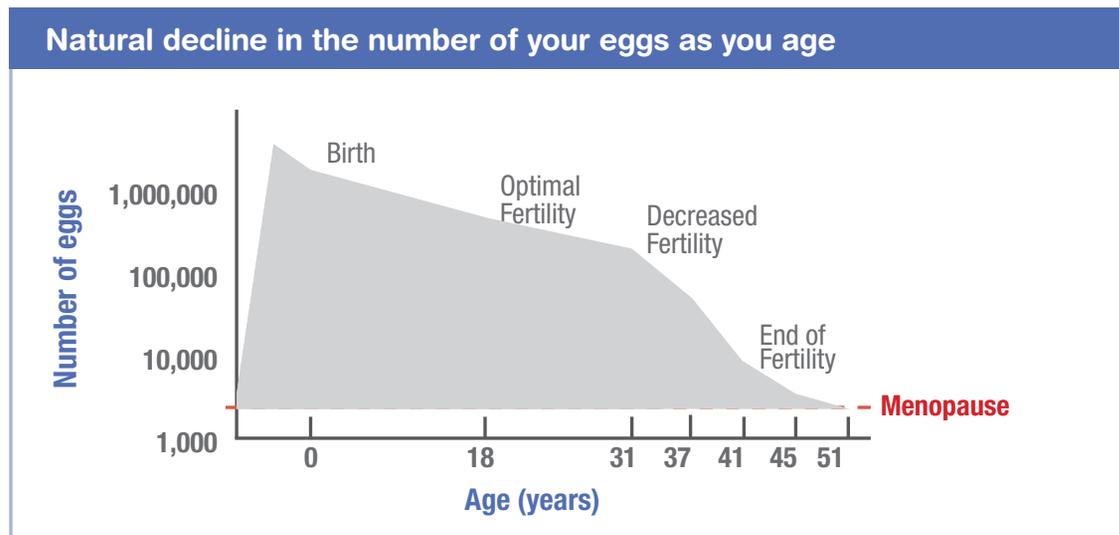
Breast cancer and my fertility

Your breast cancer treatments may decrease the number and quality of eggs in your ovaries. This means you may find it harder or you may be unable to get pregnant after treatment.

Your risk of infertility after treatment depends on a number of factors. The important factors include:

- your age at diagnosis
- your age when you plan to get pregnant
- the type and dose of cancer treatment

The graph below shows that as you age normally, the number of eggs in your ovaries go down until you reach menopause.



Adapted from The Oncofertility Consortium myoncofertility.org. Used with permission.

How does age affect my fertility?

- You have a fixed number of eggs in your ovaries when you are born.
- As you get older, the number and quality of eggs decreases. This means that as you age your chances of becoming pregnant naturally also go down.
- Your fertility declines 10 to 13 years before menopause. This is called the perimenopausal period.
- Eventually you will have few to no eggs left in your ovaries. This is called reaching natural menopause. You can no longer get pregnant after you reach menopause.

It is important to note that natural pregnancy ends before menopause. This means even before you reach menopause, you are unlikely to achieve natural pregnancy for many years before that.

How will cancer treatment affect my fertility?

The chart below shows the treatments you may have and how they affect fertility. You should not try to get pregnant while on any treatment for your breast cancer.

Treatment	Will this treatment affect my fertility?
Breast Surgery	X No – Unless you have surgery to take out your ovaries. Removal of your ovaries will affect your fertility.
Breast Radiation	X No – Unless you have radiation to your ovaries. Radiation to your ovaries will affect your fertility.
Chemotherapy	~ Possibly – Cyclophosphamide is one drug that can affect your fertility the most. It is usually given in combination with other chemotherapy drugs.
Hormone (Endocrine) Therapy	~ Possibly – If your cancer is hormone sensitive, you may be taking hormone therapy for 5 or more years. This will delay your ability to get pregnant, as you should not try to get pregnant during this treatment.
Trastuzumab (Herceptin®)	? Unknown – If you have HER2+ breast cancer, you will be on Herceptin for about 1 year. This will delay your ability to get pregnant, as you should not try to get pregnant during this treatment.

What can happen to my fertility during chemotherapy?

Some chemotherapy drugs reduce the number of eggs in your ovaries. This can cause you to go into menopause after treatment or earlier than normal. This is called premature ovarian insufficiency (POI)

- During chemotherapy, you may stop getting your periods. You may experience menopausal symptoms.
- After chemotherapy, your period may start again in a few months or it may take up to a year for them to come back.
- Your period coming back depends on your age and how many eggs were in your ovaries before treatment. It also depends on the type and total dose of chemotherapy given.
- If you do not have your period during or after chemotherapy it does not always mean you are in permanent menopause. You may still be able to get pregnant at this time.
- Even if your period comes back after chemotherapy, you may not be able to have a natural pregnancy. This is due to the lower number and quality of eggs in your ovaries.

Use the LIVESTRONG Fertility Risk Tool at www.livestrong.org/we-can-help/livestrong-fertility to learn more about your risk of your periods stopping based on the chemotherapy drugs you may receive.

What can happen to my fertility during hormone (endocrine) therapy?

- Hormone therapy does not affect your fertility. However, if you have hormone therapy for 5 or more years your fertility will decrease as you age.
- You may be able to interrupt hormone therapy before the full treatment is completed, while you try to become pregnant. Then you could continue hormone therapy after your child is born. The effect of this is still being studied. Talk with your oncologist about taking a break from treatment in order to try to get pregnant.

How will I know if I am still able to get pregnant after I finish chemotherapy and hormone therapy?

Your fertility specialist can do tests to help determine how many eggs are left in your ovaries. The tests may show you have:

Normal fertility

- You have enough good quality eggs left in your ovaries to have a natural pregnancy. This is assuming that you and your partner have no other fertility problems.
- Your ability to have a natural pregnancy will vary by your age. If you are younger in age, you have a higher chance of having a natural pregnancy after treatment. This is because you had more eggs and better quality eggs in your ovaries before starting treatment.

Premature ovarian insufficiency (POI)

- Your ovaries stop working early (before the age of 40?). Your ovaries may not produce normal levels of estrogen or release eggs regularly.
- You may still be able to have a natural pregnancy after treatment but you will begin menopause earlier in your life. It may also take longer or be harder for you to become pregnant.

Permanent menopause

- Your periods do not start again and you have few to no eggs in your ovaries.
- Permanent menopause after treatment is likely if you are over the age of 45 when you are diagnosed. This is because you are closer to natural menopause at the time you started treatment. The average age of menopause in Canada is 52 years of age.



FAQs

I am not ready to have a child. Why should I consider my fertility now?

Even if you are not ready to have a child now you may find it useful to think about your fertility. You may get treatment for 5 or more years to prevent your cancer from coming back. You should not get pregnant while on treatment. During this time on treatment your fertility will go down. You should think about the age you will be when you are done treatment when making your fertility decisions.

Do I need to take birth control when I am receiving cancer treatment?

Your doctor may advise you to use birth control to prevent a pregnancy during treatment. You would choose a form of birth control that does not change your hormones, such as condoms or non-hormonal intrauterine devices (IUD).

Section 2

- Fertility options before treatment
- Parenthood options after cancer treatment
- Timeline of your fertility options

There are fertility options available to you before you start treatment. It is possible for some people to have a healthy child after choosing any of these fertility options before treatment.

The **most common** fertility options available to you before treatment in Canada include:

- Wait and see (no fertility preservation used)
- Embryo cryopreservation (embryo freezing)
An embryo is made when an egg is combined with sperm.
- Oocyte cryopreservation (egg freezing)
- Ovarian suppression (temporarily shutting off ovarian function)

Less common and experimental fertility options that may be available to you before treatment include:

- Ovarian tissue banking (removing and freezing tissue from your ovary)
- In vitro maturation (removing immature eggs from your ovaries)

Visit fertilityaid.rethinkbreastcancer.com for more information on the less common fertility options.

Please note: the fertility options presented may not be right for everyone. It is important to talk with your healthcare team to decide which of these options might be safe for you.



FAQs

Do I have enough time to act on any fertility options before my cancer treatment?

It is important to talk to your family doctor, surgeon, oncologist or another member of your healthcare team about fertility as soon as you can. You can get a referral for a fertility specialist or you can self-refer to some clinics in Canada to learn about your options. If you decide to have embryo or egg freezing, it will take some time to set up.

It is common to feel the need to start treatment as soon as possible. However, a short delay to preserve your fertility is unlikely to affect the chance of curing your cancer.

Does the hormone status of my cancer affect the fertility options available to me?

The hormone status of your breast cancer does not affect the fertility option you can choose.

Where can I find a fertility clinic near me?

Ask your family doctor, surgeon, oncologist or another member of your healthcare team if they have a specific fertility clinic where they can refer you. A list of fertility clinics in Canada that are set up to care for young people with cancer is also available at the Cancer Knowledge Network:

www.cancerkn.com/canadian-fertility-centers/list-canadian-fertility-centers/

Questions about the most common fertility options

Frequently Asked Questions	Wait and see 	Embryo freezing 	Egg freezing 	Ovarian suppression 
What does the fertility option involve?	<ol style="list-style-type: none"> 1. You start treatment without taking any steps to preserve your fertility 	<p>Before treatment:</p> <ol style="list-style-type: none"> 1. You self-inject hormones every day for 10 to 11 days so your eggs mature. You can also discuss the option to not use hormones. 2. Eggs are collected using an ultrasound-guided needle that is inserted into your vagina 3. Eggs are fertilized with sperm to create embryos 4. Embryos are frozen while you have treatment <p>After treatment:</p> <ol style="list-style-type: none"> 5. You can thaw the embryos and put them into your womb or into a surrogate <p>This process is called in vitro fertilization and embryo transfer.</p>	<p>Before treatment:</p> <ol style="list-style-type: none"> 1. You self-inject hormones every day for 10 to 11 days so your eggs mature. You can also discuss the option to not use hormones. 2. Eggs are collected using an ultrasound-guided needle that is inserted into your vagina 3. Eggs are frozen while you have treatment <p>After treatment:</p> <ol style="list-style-type: none"> 4. You can thaw your eggs and fertilize them with sperm from your partner or a donor to create embryos 5. Embryos are put into your womb or into a surrogate <p>This process is called egg freezing, in vitro fertilization and embryo transfer.</p>	<p>Before treatment:</p> <ol style="list-style-type: none"> 1. 7 days before your chemotherapy, you are given an injection of medication to temporarily shut down your ovaries and prevent your body from making mature eggs or estrogen <p>For example, leuprolide (Lupron®) and goserelin (Zoladex®) are ovarian suppression medications</p> <ol style="list-style-type: none"> 2. The injection is repeated every 1 to 3 months 3. The monthly injections may stop after you are done chemotherapy <p>Your doctor may advise you to keep taking ovarian suppression with hormone therapy. This is because it can also be used to help reduce the chances of your cancer returning.</p>
Where is this option available?	Available to everyone	All fertility clinics	Most fertility clinics	All oncologists can give you these drugs. However, not all oncologists believe that it will work to protect your eggs.
Will my treatment be delayed?	No delay	Possibly – Takes 2 to 4 weeks It may take longer for some people	Possibly – Takes 2 to 4 weeks It may take longer for some people	No delay
What is the average cost to me?	No cost	\$0 to \$20,000 	\$0 to \$15,000 	\$0 to \$500 every month 
Is there funding available?	Not applicable	<p>Possibly – funding may be available. Some provinces cover the costs of embryo and egg freezing. Visit our online decision aid for information on available funding in your province fertilityaid.rethinkbreastcancer.com.</p> <p>Fertile Future may give you up to \$2500 through the Power of Hope program www.fertilefuture.ca. Your drug insurance plan may cover the cost of drugs. Compassionate medication programs are also available www.infertilitynetwork.org/insurance.</p>		



Questions about the most common fertility options

Frequently Asked Questions	Wait and see 	Embryo freezing 	Egg freezing 	Ovarian suppression 
<p>What is my chance of getting pregnant?</p> <p>Your chance of having a child by your age are on pages 12 to 15</p>	<p>Depends on:</p> <ul style="list-style-type: none"> • your age when you try to get pregnant • number of eggs left in your ovaries after treatment 	<p>Depends on:</p> <ul style="list-style-type: none"> • your age when eggs collected • number and quality of eggs collected • number of embryos created, frozen, and thawed 	<p>Depends on:</p> <ul style="list-style-type: none"> • your age when eggs collected • number and quality of eggs collected • number of eggs that were successfully thawed • number of embryos created <p>Freezing eggs has a lower chance of pregnancy than freezing embryos</p>	<p>Depends on:</p> <ul style="list-style-type: none"> • your age when you start treatment • number and quality of eggs that remain in your ovaries after treatment <p>We do not know for sure that this works.</p>
<p>What are my risks?</p>	<p>Your treatment may decrease the number of eggs in your ovaries. You may be unable to have a natural pregnancy after treatment.</p>	<p>You may be at an increased risk of:</p> <ul style="list-style-type: none"> • pain, vaginal bleeding or infection after egg collection • Increased estrogen levels from the hormones used to mature your eggs for collection. You will be given an aromatase inhibitor to prevent the rise in estrogen. • ovarian hyperstimulation syndrome (painful and swollen ovaries) – mild in 10 out of 100 people and severe in less than 1 out of 100 people. Symptoms vary for each person but may include stomach pain, nausea, vomiting, diarrhea, and sudden weight gain. <p>Ask your fertility specialist about your specific risks.</p>		<p>You may have menopause symptoms and reversible thinning of bones.</p>
<p>What other factors should I consider?</p>	<p>You may decide to wait and see if you do not have time or money to complete another fertility option or as a personal preference.</p> <p>Choosing another fertility option may be stressful. Consider which decision has the most impact on future “you”.</p> <p>You may have to wait for several years after treatment before trying to get pregnant.</p>	<p>Sperm is needed to create embryos. You can get sperm from your partner and/or donor sperm. Donor sperm is available within 48 hours from a sperm bank.</p> <p>Counselling may be advised if you decide to use donor sperm.</p> <p>If you choose to freeze embryos with a stable partner/relationship, you both must agree to the future use. This means that if the relationship ends, you have lost your reproductive freedom. You alone cannot make the decision about what do with the embryos.</p> <p>You may face religious or ethical challenges if you do not need the embryos after treatment.</p> <p>Maximum storage time for your frozen embryos may vary by clinic.</p>	<p>You do not need sperm at the time of egg collection or freezing.</p> <p>You can freeze some eggs and some embryos at the same time if you have access to sperm.</p> <p>Maximum storage time for your frozen eggs may vary by clinic.</p> <p>You maintain your reproductive freedom. You alone have the right to make decisions about what to do with your frozen eggs.</p>	<p>You may decide to have ovarian suppression if you do not have time to complete another fertility option or as a personal preference.</p> <p>Your periods will stop when you are using ovarian suppression.</p> <p>You can combine this approach with embryo or egg freezing</p>



What is my chance of having a pregnancy with the fertility options?

It is important to remember:

- chemotherapy reduces your ability to become pregnant and we do not know by how much exactly. It will be different for each person.
- your age when you plan to get pregnant will affect whether you have a successful natural pregnancy after treatment
- your age when you freeze eggs or embryos will affect whether you have a successful pregnancy using the frozen eggs or embryos
- even if your periods come back after chemotherapy, it does not always mean that you will be able to have a natural pregnancy

Read the information below and then go to the fertility options on page 13 to 15 to find your age range.



Wait and see – The chance of having a natural pregnancy after treatment is based on your age and, to some extent, the type of chemotherapy that you get. Even if you do not get chemotherapy, your natural fertility decreases as you age and your chance of having a miscarriage increases.



Embryo freezing – The success of a frozen thawed embryo creating a pregnancy is dependent on the age of the person who produced the egg that made the embryo. The pregnancy rates for embryo freezing are averages from 34 fertility clinics across Canada in 2015. These averages include people who froze embryos at these clinics during the course of treatment for infertility.

How many embryos will survive the thawing process? The number of eggs collected varies. The collected eggs will be fertilized with sperm. But not all eggs will successfully fertilize to create embryos. All embryos that are successfully created will be frozen. Approximately 90% of frozen embryos will survive the thawing process.



Egg freezing – As this is a newer procedure there are no data on the pregnancy rates from fertility clinics in Canada. Pregnancy rates vary for each fertility clinic and you should discuss them with your fertility specialist.

How many eggs will survive the thawing process? The number of eggs collected varies. The collected eggs will be frozen. Approximately 80%-90% of frozen eggs will survive the thawing process. The eggs that survive will be fertilized with sperm. But not all eggs will successfully fertilize to create embryos.

Are my chances of getting pregnant lower when I freeze eggs compared to embryos? If your eggs are thawed and fertilized to create healthy embryos then your chances of getting pregnant are the same as if you decided to freeze embryos. However as some eggs may not survive the thaw process, you may have fewer embryos created from frozen eggs than you may from fresh eggs.

You can use an online tool to estimate the chance of having a child after freezing your eggs. This calculator takes your age into account. Online tool:

www.fertilitypreservation.org/index.php/probability-calc



Ovarian suppression – We do not know for sure that ovarian suppression can protect eggs. Some studies show promising results for ovarian suppression preventing premature menopause after chemotherapy for breast cancer. However, it is not clear if it improves your chances of having a child after treatment. More research is being done to see if ovarian suppression can protect eggs during chemotherapy.

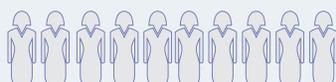
Please note: The success rates are based on people with and without cancer. We have limited information about fertility success rates for breast cancer survivors. Your chance of success depends on your individual situation. Talk with your healthcare team to understand your specific chances.

Wait and See

What are my chances of pregnancy if I choose to wait and see before chemotherapy?

The table below shows your chances of getting pregnant by age range if you decide to wait and see.

NOTE: Not all pregnancies will result in a live birth.

Age range when you try to get pregnant after treatment	Risk of chemotherapy affecting your fertility	Chance of having a natural pregnancy in one year	
Under age 30 when you try to get pregnant	LOW		Approximately 7 out of 10 people (70%) will have a natural pregnancy in one year
30 to 34 years of age when you try to get pregnant	LOW to MEDIUM		Approximately 4 out of 10 people (40%) will have a natural pregnancy in one year
35 to 39 years of age when you try to get pregnant	MEDIUM		Approximately 3 out of 10 people (30%) will have a natural pregnancy in one year
40 to 44 years of age when you try to get pregnant	HIGH		Your chances of having a natural pregnancy are very low. They are less than 10%
Over age 44 when you try to get pregnant	VERY HIGH		Your chances of having a natural pregnancy are very low. They are less than 1%

Please note: A successful pregnancy will depend more on your age when you try to get pregnant after treatment. Talk with your doctor to see how long your treatment will last and when you can safely try and get pregnant.



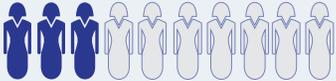
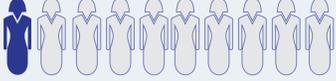
Embryo Freezing

What are my chances of pregnancy if I choose to freeze embryos before chemotherapy?

Your chance of having a pregnancy with embryo freezing is on top of any natural ability you may have to get pregnant after chemotherapy

The table below shows your chances of having a pregnancy by age range if you decide to freeze embryos. Remember that the chance of having a pregnancy in the general population under the age of 35 is only around 20% to 30% each month.

NOTE: Not all pregnancies will result in a live birth.

Age range when you freeze your embryos	Chance of having a pregnancy each time embryos are put into the womb	
Under age 30 when you freeze embryos		Approximately 5 out of 10 people (50%) will have a pregnancy each time embryos are put into the womb
30 to 34 years of age when you freeze embryos		Approximately 4 out of 10 people (40%) will have a pregnancy each time embryos are put into the womb
35 to 39 years of age when you freeze embryos		Approximately 3 out of 10 people (30%) will have a pregnancy each time embryos are put into the womb
40 to 44 years of age when you freeze embryos		Approximately 1 out of 10 people (10%) will have a pregnancy each time embryos are put into the womb
Over age 44 when you freeze embryos		Your chances of having a pregnancy using your own eggs are very low. They are less than 2%

There are increased risks for any person who gets pregnant and has a child at an older age. Visit the Society of Obstetricians and Gynecologists in Canada for more information on the risks: www.pregnancy.sogc.org/fertility-and-reproduction/age-and-fertility/

Please note: A successful pregnancy will depend more on the age when your embryos were frozen before treatment.

Ovarian Suppression

What are my chances of my period coming back if I choose ovarian suppression before chemotherapy?

There is not enough research completed on ovarian suppression to separate it out by age. The chart below shows the chances of your period coming back after using ovarian suppression compared to those who did not use ovarian suppression.

Fertility Option	Age range when you start chemotherapy	Chance of your period coming back after chemotherapy
No ovarian suppression	Most people between 35 to 40 years of age	<p>Approximately 7 out of 10 people (70%) got their periods back after chemotherapy</p>
Ovarian suppression	Most people between 35 to 40 years of age	<p>Approximately 8 out of 10 people (80%) got their periods back after chemotherapy</p>

Please note: We do not know how much ovarian suppression improves your chances of getting pregnant after treatment. We only know the chance of your period coming back after treatment. But your period coming back after treatment does not always mean you will be able to get pregnant.

Once your treatment is completed you have many fertility and parenthood options available to you.

Natural pregnancy

You can try to have a child if your ovaries begin to work again after treatment. This depends on your age. If you are over the age of 35, you may find it harder to get pregnant naturally.

Using frozen embryos and eggs

You can thaw your embryos or eggs (after fertilizing with sperm to create embryos) you froze before treatment. You can either put them into your womb, your partner's womb or into a surrogate.

In vitro fertilization

If you still have high quality eggs remaining after treatment you can complete egg and/or embryo freezing after treatment. The number of eggs that are collected may be lower than the number that could have been collected before treatment resulting in a lower chance of having a child.

Egg or embryo donor

You can consider having a child with an egg or embryo donor. A donor is a person who donates healthy eggs or embryos if you do not have enough working eggs after treatment. For more information, visit the Government of Canada: www.healthycanadians.gc.ca and search for "egg donors" and "embryo donors"

Surrogacy

You can consider having a child with a surrogate. A surrogate is someone who carries your child for you. You can use a surrogate with your own eggs or donor eggs. For more information, visit Health Canada: www.hc-sc.gc.ca and search for "surrogates"

Adoption

You can explore adopting a child. It can sometimes be a challenging process that takes time and may be costly if you adopt privately. The adoption process and criteria varies for each province in Canada. For more information, visit the Adoption Council of Canada: www.adoption.ca or your local Children's Aid Society.



FAQs

How long after my cancer treatment do I have to wait before getting pregnant?

There is no right answer for everyone. Talk to your oncologist about your specific situation including your age, treatments, and the chance of your cancer coming back. Your oncologist may recommend that you wait several years after treatment before trying to get pregnant. The number of years will vary based on your situation.

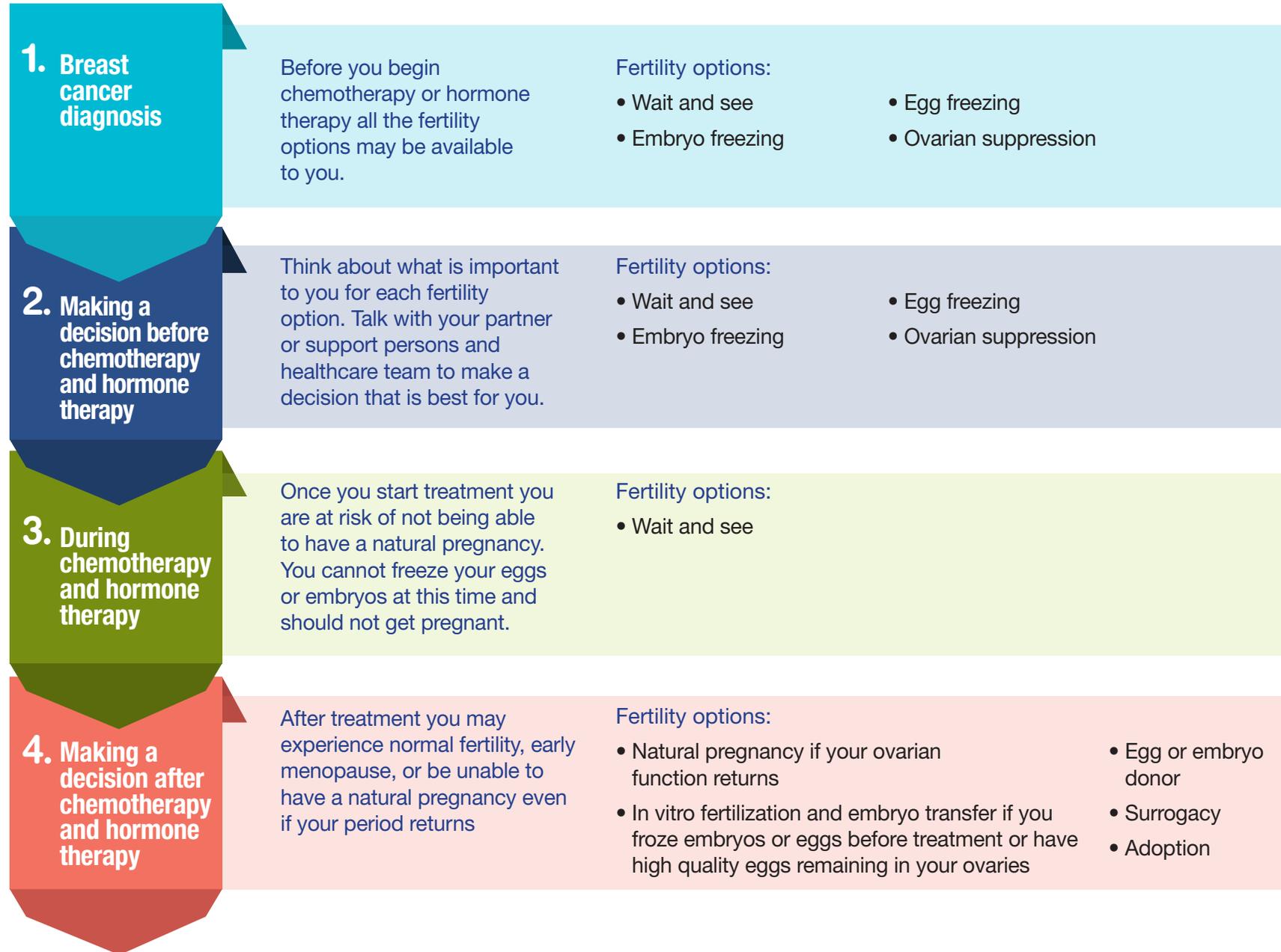
If I become pregnant, does it increase the risk of my cancer returning?

Research has shown that becoming pregnant after your cancer diagnosis does not increase your risk of cancer returning or the outcome of your cancer.

If I have a child after my cancer treatment, will my child be healthy?

In general, children born to cancer survivors are as healthy as children born to people without cancer. But if you have a BRCA 1 or 2 gene mutation you may pass this gene mutation to your children. Talk with your healthcare team or ask for a referral to a genetic counsellor for more information.

The fertility options available to you depend on where you are in your cancer journey



Section 3

- Summary
- Fertility Options Exercise



Below is a summary of the information in the previous sections. Review this information to help you think about the fertility options that may be best for you.

- You have a fixed number of eggs in your ovaries when you are born.
- Chemotherapy used to treat your breast cancer can decrease the number of eggs in your ovaries. You may find it harder or you may be unable to get pregnant after treatment.
- Hormone therapy does not affect fertility. However, you may have hormone therapy for 5 or more years after your other treatments.
- Your fertility naturally goes down as you age. It may be more difficult to get pregnant the longer you wait.
- Consider your age now and your age after treatment when thinking about your fertility options.
- The four most common fertility options available to you in Canada include:
 - wait and see (no fertility preservation used)
 - embryo cryopreservation (embryo freezing)
 - oocyte cryopreservation (egg freezing)
 - ovarian suppression (temporarily shutting off ovarian function)
- The chances of having a child after completing any of the fertility options will vary for each person. Talk with your fertility specialist about your specific chances.
- The cost of the fertility options is different in each province. Embryo freezing and egg freezing may cost between \$0 to \$20,000. Funding may be available to you. Visit fertilityaid.rethinkbreastcancer.com to see the cost and available funding in your province.
- After treatment many parenthood options are available to you including:
 - natural pregnancy
 - egg donor or embryo donors
 - using your frozen embryos and eggs
 - surrogacy
 - in vitro fertilization
 - adoption
- Before chemotherapy all the fertility and parenthood options may be available to you. This is the time to consider freezing your embryos or eggs. Remember you have a better chance of success when you freeze embryos or eggs at a younger age.
- During chemotherapy you have the option to wait and see.
- After completing your chemotherapy and hormone therapy, your fertility options will depend on the number of eggs that are remaining in your ovaries.

This exercise will help you think about what is important to you for each fertility option.

1. Go through each fertility option and check ✓ how important the listed factors are to you
2. Add in any other factors that are important to you

Making a decision on family planning can be emotionally difficult. Consider filling this out with a member of your healthcare team that you trust, with your partner or support persons.

Please note: you can decide on more than one fertility option. You do not have to make your fertility decision after completing this exercise. The exercise is also available for you to complete online at fertilityaid.rethinkbreastcancer.com.

 Wait and See	Less Important to Me		More Important to Me		
<i>Example selection</i>			✓		
There is no cost					
I can start my cancer treatment right away					
I do not need to inject myself with hormones					
I have other parenthood options available to me after treatment					
I do not need additional visits to the fertility clinic					
This process may add to my emotional stress					
I may be unable to have a natural pregnancy after treatment and may regret not keeping my options open					
Other:					

Embryo Freezing	Less Important to Me			More Important to Me		
My children will be genetically related to me and the individual who provided sperm						
If I use sperm from my partner, we both must decide what to do with the embryos						
I can test my eggs for a BRCA mutation						
I may regret going through this process if I am able to have a natural pregnancy after treatment						
Sperm is required to create embryos so I need to have a male partner or use a sperm donor						
There may be cost to create, freeze, and store embryos						
My treatment may be delayed 2 or more weeks						
I see an embryo as a living person. I may find it hard to decide what to do with them if I do not need them after treatment.						
This process may add to my emotional and physical stress						
I may still not be able to have a child after freezing embryos						
I will have to travel to the fertility clinic frequently for monitoring and egg collection						
Other:						

 Egg Freezing	Less Important to Me			More Important to Me		
My children will be genetically related to me and the person who provided sperm						
I can freeze some eggs and some embryos at the same time						
Sperm is not required at the time of my egg freezing						
I can test my eggs for a BRCA mutation						
I may regret freezing my eggs if I am able to have a natural pregnancy after treatment						
It is not as successful as embryo freezing						
There may be a cost to remove, freeze and store my eggs						
My treatment may be delayed 2 or more weeks						
This process may add to my emotional and physical stress						
I may still not be able to have a child after freezing my eggs						
I will have to travel to the fertility clinic frequently for monitoring and egg collection						
Other:						

 Ovarian Suppression	Less Important to Me			More Important to Me	
I can start my cancer treatment right away					
My children will be genetically related to me					
I can use it with the other fertility options including embryo and egg freezing					
I do not need extra visits to the fertility clinic					
There may be a monthly cost					
I will go into menopause and may have symptoms					
I may still not be able to have a child after treatment					
Research is still ongoing. This option may not work to protect my eggs from chemotherapy.					
Other:					

Which options am I leaning towards? Check all of the below options that you would like more information on.

- Wait and see
 Embryo freezing
 Egg freezing
 Ovarian suppression
 I am not sure yet

Remove these pages and bring to your next appointment as they may help you discuss your fertility options with members of your healthcare team.

Section 4

- Questions
- What's Next

Your healthcare team is there to help you make a decision that is right for you. **Do not be afraid to ask questions.**

How can my healthcare team help with my fertility options?

- **Family Doctors** – Give referrals to breast surgeons and fertility specialists. They can also help manage menopause symptoms and provide basic information on your fertility options.
- **Surgeons** – Give information on your breast and reconstructive surgery options. They can also give referrals to fertility specialists.
- **Medical and Radiation Oncologists** – Give information on your medical treatment plan including radiation, chemotherapy, hormone therapy and/or Trastuzumab

(Herceptin®). Medical oncologists will have the most accurate information about the type, side effects and timing of chemotherapy and hormone therapy. They can also give referrals to fertility specialists and discuss ovarian suppression with you.

- **Fertility Specialists** – Give information on available fertility options including the process, cost, timing, success rates and risks. They will have information on funding for fertility treatments in your province.
- **Nurses, Social Workers, Psychologists** – Give social and emotional support and can help you work through which fertility option is right for you. Nurses and social workers should be able to connect you to resources on fertility that relate to your specific concerns.



Questions to ask your healthcare team:

1. What cancer treatments will I be receiving?
2. Will the cancer treatments I receive affect my ability to become pregnant naturally?
3. What are my chances of becoming pregnant after cancer treatment?
4. Do I have time to freeze my eggs or embryos before starting cancer treatment?
5. Where can I get donor sperm?
6. What is the full cost of the fertility preservation based on my situation and where I live?
7. Is funding available to me if I decide to complete fertility preservation?
8. What are my specific risks when taking fertility hormones to mature my eggs before collection?
9. How long after my cancer treatment should I wait before trying to become pregnant?
10. Where can I get emotional support to help me before and after my cancer treatment?

11. _____

12. _____

13. _____

14. _____

15. _____

1. Visit our online decision aid: fertilityaid.rethinkbreastcancer.com for more information on the less common fertility options, cost of fertility preservation by province, resources available by province, and questions to test your knowledge.
2. Ask your family doctor, surgeon, oncologist or other healthcare team member for a referral to a fertility specialist to learn more about your fertility options.
3. Bring this decision aid, your notes, and any questions with you when you meet with your fertility specialist and oncologist.

Resources

You are not alone. There are many resources that you can use before and after your treatment. Below are some of the resources that are available. Ask your healthcare team for more resources or support groups near you.

Canadian Resources and Support Groups

- Rethink Breast Cancer – www.rethinkbreastcancer.com
- Young Adult Cancer Canada – www.youngadultcancer.ca
- Cancer View Canada – www.cancerview.ca
- Canadian Cancer Survivor Network – www.survivornet.ca
- Canadian Cancer Society – www.cancer.ca
- Cancer Knowledge Network – www.cancerkn.com

These resources will give you more information on all aspects of your breast cancer diagnosis. This includes Canadian information on breast cancer, fertility concerns, and other treatments.

These resources also have peer to peer support groups and forums where you can go to talk with others in similar situations in Canada.

Resources and Support Groups Outside of Canada

- LIVESTRONG Foundation – www.livestrong.org
- MyOncofertility – www.myoncofertility.org
- National LGBT Cancer Network – www.cancer-network.org
- National LGBT Cancer Project – www.lgbtcancer.org
- Breastcancer.org – www.breastcancer.org
- Young Survival Coalition – www.youngsurvival.org

Use these resources for more information and for support groups. Information is not specific to Canadians.

Fertility Funding in Canada

- Fertile Future – www.fertilefuture.ca

Fertile Future may provide up to \$2500 if you decide to have fertility preservation.

More information and funding resources in your province can be found in the online decision aid: fertilityaid.rethinkbreastcancer.com

Section 5

- Fertility after breast cancer

Adjusting to life after breast cancer treatment can be hard. Many people find that navigating through the end of treatment is the most difficult stage of their cancer journey. You may feel pressure to go back to work or bounce back to your life before your breast cancer diagnosis. Your friends and family may not realize the emotional and physical toll that is still present after your treatment.

After treatment you may begin to think of your future and having children. It is important to remember that the chance of having a natural pregnancy after treatment is different for everyone. Your fertility specialist can do tests to determine your chances of having a natural pregnancy.

You may find that you are unable to have a natural pregnancy after treatment. If you decided not to preserve your fertility before treatment you may experience regret and have a hard time accepting your infertility. Even if you froze embryos or eggs before treatment, you still may not be able to have a child. You may find it helpful to talk with someone you trust about your feelings. There are also other parenthood options available including egg or embryo donors, adoption or surrogacy.

Know that you are not alone. There are many resources and supports to help you adjust to life and possible parenthood after breast cancer.

Canadian organizations with specific support on fertility after breast cancer

After Breast Cancer – www.afterbreastcancer.ca

- Organization dedicated to providing prostheses and bras for those who had a mastectomy or lumpectomy and are in financial need.

Canadian Cancer Society – www.cancer.ca

- Organization that supports people affected by cancer with printed and online information, a toll-free line to ask questions (1-888-939-3333), an online community and a peer to peer support program that allows you to connect with other people like you.

Rethink Breast Cancer – www.rethinkbreastcancer.com/life-after-treatment

- Group that provides tips on how to get through life after breast cancer and has a private Facebook page where you can connect with other people like you.

More resources in your province can be found in the online decision aid: fertilityaid.rethinkbreastcancer.com



Section 6

- List of terms
- Sources and Recognition

Aromatase inhibitor – drugs that stop your body from making estrogen

BRCA1 or BRCA2 gene mutation – an inherited change in either of these genes is linked to an increased risk of breast cancer

Chemotherapy – cancer treatment that uses drugs to destroy cancer cells through your body

Cryopreservation – freezing through very low temperatures to preserve the structure of living tissue and cells

Cyclophosphamide – chemotherapy drug used to treat breast cancer

Estrogen – the main sex hormone in females

Fertility – having the ability to become pregnant naturally

Trastuzumab (Herceptin®) – a targeted cancer treatment to treat HER 2+ positive cancer

Hormone therapy – treatment used to lower or block the amount of estrogen in your body

Infertility – not being able to become pregnant naturally

Menopause – time in life when your periods stop permanently and you are no longer able to become pregnant naturally

Miscarriage – loss of a pregnancy during the first 20 weeks of the pregnancy

Perimenopausal period – the period 10 to 13 years before menopause where your fertility goes down and your chances of having a natural pregnancy also go down

Natural pregnancy – the ability to become pregnant naturally without help from assisted reproductive technologies such as in vitro fertilization

Ovarian hyperstimulation disorder – when too many hormones are used to produce mature eggs for collection leading to painful and swollen ovaries

Ovarian function – your ovaries working normally to produce eggs

Ovarian suppression – a drug used to prevent your ovaries from making estrogen temporarily or permanently

Ovaries – a reproductive organ where your eggs are produced

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Date of last review: Update May 1, 2017 to August 1, 2020. A full review and update will be completed every 2 years with interim updates as new research becomes available.

The information in this decision aid was summarized from clinical practice guidelines, literature, and credible organizations. The development was guided by the International Patient Decision Aid Standards criteria.

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