More information about prenatal genetic screening is available on our website *www.bcprenatalscreening.ca*

If you have questions or need more information, please talk to your health care provider.

What else might you like to know?

The BC Prenatal Genetic Screening Program is part of the Provincial Health Services Authority's BC Perinatal Health Program. The BC Prenatal Genetic Screening Program operates across several facilities in the province. While analysis of the initial blood tests takes place at the laboratory at the Children's and Women's Health Centre of BC, further diagnostic testing, if required, takes place at other facilities in BC. Regardless of the point of collection, prenatal genetic screening information is provided to the BC Prenatal Genetic Screening Program and, in combination with other information received, is used to provide safer, more accurate tests, measure outcomes and evaluate and disseminate new evidence/knowledge.

We are committed to protecting the privacy of personal information

For women choosing to have prenatal genetic screening, it is important to know that the BC Prenatal Genetic Screening Program collects, uses and discloses personal information only as authorized under section 26 (c) of the BC Freedom of Information and Protection of Privacy Act and other legislation. We take all reasonable steps to make sure that personal information is treated confidentially, is only used for the purposes described above and is securely stored. Reports generated from the information are always in summarized form and do not include names or other identifying information. Should you have any questions regarding the collection, use or disclosure of your personal information, please contact the BC Prenatal Genetic Screening Program at (604) 875-3772.

BC Prenatal Genetic Screening Program

PART OF THE BC PERINATAL HEALTH PROGRAM

Provincial Health Services Authority
Province-wide solutions. Better health.

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Prenatal Genetic Screening

It's *your* choice

Learn more about the options available to you

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Although most babies are born healthy, all women have a chance of having a baby with Down syndrome, trisomy 18 or an open neural tube defect – even if they and their families are healthy.

What is prenatal genetic screening?

It is a blood test available to all pregnant women in British Columbia. This screening tells you the chance of your baby having Down syndrome, trisomy 18 or an open neural tube defect.

What are Down syndrome, trisomy 18 and open neural tube defects?

Down syndrome happens when a baby has an extra chromosome. Chromosomes tell our bodies how to grow and develop. When there is an extra chromosome there is too much information. This changes the way the body grows and develops. People with Down syndrome have mild to moderate intellectual delays. They also have a higher chance of some health problems. There is no way to know how serious the problems will be. People with Down syndrome usually live into their 50s.

Trisomy 18 also happens when a baby has an extra chromosome. Many pregnancies with trisomy 18 miscarry. If the baby is born, he or she rarely lives past the first few days or weeks. These babies have serious heart and brain defects.

Open neural tube defects happen when the brain or spinal cord does not form properly. When an open neural tube defect involves the spinal cord, it is called spina bifida. It can result in both physical and mental disabilities. Life expectancy depends on how serious the condition is. An open neural tube defect involving the brain is called anencephaly. Babies with anencephaly will be stillborn or die shortly after birth.

Prenatal screening will tell you your chance of having a baby with Down syndrome, trisomy 18 or an open neural tube defect in this pregnancy.

It is your choice whether to have prenatal genetic screening.

The earlier you see your health care provider, the more options you have.

What are the chances I will have a baby with one of these conditions?

The chance of having a baby with Down syndrome is about 1 in 700 and the chance of having a baby with trisomy 18 is about 1 in 7,000. These numbers are averages for women of all ages. In fact, the chance of having a baby with Down syndrome or trisomy 18 is lower in younger women and higher in older women.

Mother's age (years)	Chance of Down syndrome	Chance of trisomy 18
25	1 in 1,250	1 in 12,500
30	1 in 840	1 in 8,400
35	1 in 356	1 in 3,560
40	1 in 94	1 in 940
45	1 in 24	1 in 240

If you or your partner has had a baby with Down syndrome or another chromosome condition, your chance in another pregnancy is increased.

The chance of having a baby with an open neural tube defect is the same no matter what your age – about 1 in 1,000.

How, when and where is prenatal genetic screening done?

Two blood tests are taken at your local lab:

- Blood test #1: between 10 and just under 14 weeks of pregnancy
- Blood test #2: between 15 and just under 21 weeks of pregnancy

If you miss the first blood test, you may still have the second blood test. It is best if you have both blood tests when possible. Having both improves the accuracy of the screen result.

Your health care provider will have your screen result within ten days after the second blood test.

Talk to your health care provider about your screening options.

Whatever you choose, it will not affect your care. If screening is not right for you, please tell your health care provider.

If you have an increased chance of having a baby with Down syndrome or trisomy 18 due to your age or pregnancy history, you may be offered a special ultrasound depending on availability. The ultrasound would be in addition to the blood tests. The ultrasound measures the fluid space at the back of your baby's neck. It is called a **nuchal translucency or NT** ultrasound. The NT is done between 11 and just under 14 weeks of pregnancy. Although adding the NT gives more information for the screen result, the blood tests described on page 3 are very good screens on their own.

What if I will be 40 or over when my baby is born?

You will be offered the choice to have testing that tells you for sure if your baby has Down syndrome or trisomy 18. This testing is called diagnostic testing. Types of diagnostic testing are chorionic villi sampling or amniocentesis. You are offered this choice without prenatal genetic screening first. However, you may choose to have the screening and then decide about diagnostic testing depending on the screen result. You may also decide not to have prenatal genetic screening or diagnostic testing.

What if I am pregnant with twins?

If you are less than 14 weeks pregnant, you may be offered an NT ultrasound without the prenatal screening blood tests, if this service is available. If an NT ultrasound is not available, or you are more than 14 weeks pregnant, you will be offered the blood test(s) described on page 3. If you will be 35 or older when your baby is born, you will be offered a diagnostic test as described above.

Most women have prenatal genetic screening results showing chances are low for these conditions.

Although 1 in 20 women will have a screen positive result, most of these women will not have a baby with Down syndrome, trisomy 18 or an open neural tube defect.

The chance of having a screen positive result increases as a woman ages.

What happens after I have had the blood tests?

The result of the prenatal screening will most likely show your chance of having a baby with one of these conditions is low. This is called a **"screen negative"** result. This result is correct over 99.9% of the time but it does not mean your chance of having a baby with one of these conditions is zero.

If the result shows your chance of having a baby with one of these conditions is high enough, you will be offered diagnostic testing. This is called a **"screen positive"** result. This prenatal screen result does not mean your baby has the condition for sure. In fact most women with this result do not have a baby with one of these conditions. The diagnostic test will give you a definite answer.

What diagnostic test will I be offered if I have a screen positive result for an open neural tube defect?

You will be offered a detailed ultrasound. You will also be offered an appointment with a maternal fetal medicine doctor or a genetic counsellor at one of BC's medical genetics clinics (Vancouver or Victoria). If your baby has an open neural tube defect, this is usually seen on the ultrasound scan.

While prenatal genetic screening tells you the chance of your baby having Down syndrome, trisomy 18 or an open neural tube defect, you would need a diagnostic test, such as an amniocentesis, to find out for sure.

What diagnostic test will I be offered if I have a screen positive result for Down syndrome or trisomy 18?

You will be offered amniocentesis, which tells you if your baby truly has one of these conditions. Some women will choose the amniocentesis, some will not. It is your choice.

What is an amniocentesis?

A small amount of fluid is taken from around your baby by putting a very fine needle into your belly. About two teaspoons are taken. The needle is guided by ultrasound so it does not touch the baby. This fluid sample is looked at to find out whether or not the baby has Down syndrome, trisomy 18 or another chromosome condition. Amniocentesis has a 1 in 200 (0.5%) chance of pregnancy loss.

What if the diagnostic test confirms that my baby has one of these conditions?

If the testing confirms your baby has Down syndrome, trisomy 18 or an open neural tube defect, there are people you can talk to who will help you. Your health care provider, as well as medical geneticists or genetic counsellors, are there to discuss your choices with you and help you make a decision that is right for you. Your choices include ending the pregnancy, continuing the pregnancy, or putting your baby up for adoption.

Making a decision

Is prenatal genetic screening right for me?

Many women find it difficult to decide whether or not to have prenatal genetic screening. Here are some questions to think about that may help you decide.

- Do I want to know if my baby has Down syndrome, trisomy 18 or an open neural tube defect before the baby is born?
- Knowing there is a chance of pregnancy loss (1 in 200) with an amniocentesis, would I have this diagnostic test if I got a screen positive result?
- What would I do if my diagnostic test result showed my baby had one of these conditions? Would I end the pregnancy? Would I want to know so that I could prepare for a child with special needs? Would I consider giving the baby up for adoption?
- How will this information affect my feelings throughout the pregnancy? Would having a screen positive result cause me too much worry?

Points to keep in mind

- Most women have a prenatal genetic screening result showing chances are low for these conditions.
- Although some will have a screen positive result, most of these women will not have a baby with Down syndrome, trisomy 18 or open neural tube defect.
- Prenatal screening detects most babies with Down syndrome, trisomy 18 or an open neural tube defect, but not all.
- Sometimes prenatal screening may detect other medical conditions in your baby.
- It is important to remember that no test detects every type of physical or mental condition.
- Talk to your health care provider if you need more information to help make your decision.