If my AFP+ Quad Test is screen negative, does that mean that my baby will be normal?

A "screen negative" result means that your risk for a child with a neural tube defect is 1 in 1000 or less. It also means that your risk for a child with Down syndrome is less than that of a 35-year-old woman.

It is never possible to be sure that your baby is going to be normal. The AFP+Quad Test will allow us to identify at least 5 out of 6 cases of open spina bifida and almost all cases of anencephaly. It can also lead to the diagnosis of about 8 out of every 10 cases of Down syndrome and Trisomy 18. Remember, a screening test can never completely rule out the possibility of an open neural tube defect, Down syndrome or Trisomy 18. There are also many other birth defects that cannot be identified with this test.

What are the advantages of having the AFP+ Quad Test?

The test may give you and your healthcare provider important information about your pregnancy and your developing baby. Twins may be discovered or your expected date of delivery may be corrected so your prenatal care and visits can be adjusted accordingly.

If your baby is found to have a serious birth defect, you can receive professional counseling about how your child’s physical and mental development may be affected. The individual capabilities and potential of children with birth defects are considerations which you may wish to discuss with your genetic counselor or with other healthcare providers. Other options such as adoption and termination of pregnancy may also be discussed.

Further information and support are available through groups such as your local Down Syndrome Society and Spina Bifida Association as listed below:

March of Dimes  www.marchofdimes.com
National Down Syndrome Society  www.ndss.org
National Association for Down Syndrome  www.nads.org
Smith-Lemli-Opitz Syndrome  www.smithlemliopitz.org
Spina Bifida Association  www.sbaa.org
Trisomy 18  www.trisomy.org

AFP+QUAD INFORMED CONSENT

I have read and understand the information in this pamphlet regarding screening for the AFP+QUAD Test.

- Yes, I want to have the AFP+QUAD Test.
- No, I do not want to have the AFP+QUAD Test.

Patient Name: ____________________________________________
Patient Signature: ________________________________________
Date: ___________________ IMPORTANT: Retain Copy in Patient File

www.lenetix.com
What is Down syndrome?
Down syndrome is a common birth defect occurring in about one in every 700 babies. It is a disorder in which an extra chromosome (the number 21 chromosome) is present in the cells of the developing fetus from the time of conception.

Down syndrome usually occurs unexpectedly and about 98% of the time is not inherited. Although Down syndrome occurs more frequently as mothers get older, about 75% of babies with Down syndrome are born to women who are younger than 35.

Down syndrome is always associated with mental retardation, often in the mild to moderate range. Children with Down syndrome have variable but predictable physical characteristics. About 50% have medical problems such as heart defects. Often surgery can correct these defects.

The levels of AFP and estriol in the mother’s serum tend to be low while the levels of total hCG and inhibin-A tend to be elevated in pregnancies affected by Down syndrome. Overall, approximately 80% of all pregnancies with Down syndrome will be identified through the AFP+Quad Test. However, detection rates vary with maternal age, ranging from 70% in women under 35 to more than 90% in women 35 and older.

Can other abnormalities be identified?
Yes. The risk of two other disorders can be estimated. One is Trisomy 18, a rare and usually fatal disorder caused by the presence of an extra number 18 chromosome in the cells of the developing baby. The risk of Trisomy 18 can be estimated using AFP, ßE3 and total hCG, and is reported only when the risk is high. The second is called Smith-Lemli-Opitz syndrome, a genetic disorder caused by an error in the synthesis of cholesterol. Smith-Lemli-Opitz syndrome is associated with many problems in the developing baby, most important are mental retardation and poor growth. The risk of Smith-Lemli-Opitz syndrome can also be estimated using AFP, ßE3 and total hCG, and is reported only when risk is high.

Why do you take age into account?
Any woman can have a baby with Down syndrome but the chance of this happening increases as a woman gets older. We use age as one of the factors when working out your risk of pregnancy with Down syndrome. Means that an older woman is more likely to have a result in the higher risk groups (screen positive) and be offered a diagnostic test.

What does it mean if my AFP+Quad Test result is screen positive?

A positive AFP+Quad Test means that you are in a higher risk group for having a baby with an open neural tube defect or a chromosomal abnormality. However, it does not prove by itself that there is anything wrong with the pregnancy. In fact, only a small number of women with screen positive results will have an abnormal baby. If you have a "screen positive" result, you should consider specific counseling to discuss further testing.

What are the tests that will be offered if my AFP+Quad Test is screen positive?

It depends on your particular result. In most cases, after counseling, an ultrasound study (sonogram) will be recommended. Depending on your AFP+Quad Test and the results of the sonogram, an amniocentesis or further diagnostic ultrasound may be recommended.

What is ultrasound and what will it show?

An ultrasound machine uses sound waves to look at the developing baby. One of the things it can do is check fetal age. Many women will have a “screen positive” AFP+Quad Test result because the dates of their pregnancies have been misjudged. When this date is adjusted, the test result becomes "screen negative". Occasionally twins will be discovered and will explain the “screen positive” result.

If the gestational age is correct and you are not carrying twins, either amniocentesis or level II sonography may be suggested. Level II sonography is a detailed examination of the fetus. It cannot be used to diagnose Down syndrome or Trisomy 18, but often can identify spina bifida and other fetal abnormalities.

What is amniocentesis and what will it show?

Amniocentesis is a procedure in which the doctor obtains a small sample of fluid that surrounds the developing fetus. The sample is then sent to the laboratory for testing. This fluid sample can be used to diagnose both chromosomal problems such as Down syndrome and Trisomy 18, as well as open neural tube defects such as spina bifida. Amniocentesis is an invasive procedure, which means that there is a small risk of miscarriage (less than 1 in 200) associated with it. Results of the test for Down syndrome and Trisomy 18 will take about 7-14 days. Results of the test for spina bifida will take about 2-5 days.

What happens if a birth defect is discovered through the AFP+Quad Test?

Your healthcare provider and/or genetic counselor will be available to discuss your baby’s diagnosis in detail and options available to you. One option would be to continue the pregnancy and make arrangements for appropriate medical services at and after delivery. Other options such as adoption and termination of pregnancy will be discussed with you by your healthcare provider.
What Is Amniocentesis?
This diagnostic test, which can be performed after 15 weeks, collects a small amount of amniotic fluid from around the baby. The doctor inserts a very fine needle to extract the fluid which contains cells from the fetus. These cells are then cultured and examined for their genetic content. Test results are usually available in 7 to 14 days. If the chromosome results are negative, it will almost certainly rule out a Down syndrome pregnancy. In addition, AFP evaluation in amniotic fluid can rule out open neural tube defects.

Is there a test offered at a later date than the Combined Test?
Yes. The Integrated 190 Test is similar to the Combined Test in that it includes Nuchal Translucency testing and PAPP-A blood chemistries in the first trimester, but because the second stage of the test is performed after 15 weeks, CVS is no longer an option as a diagnostic test. However, it is a more accurate and comprehensive test because it includes the Quad Test as a second stage, which examines AFP, total ß-hCG, uE3 and Inhibin A. This second stage is recommended to be drawn at 15 to 16 weeks, but can be performed up to 22 weeks.

The possible detection rate for Down syndrome is 90 percent (five percent more accurate than the Combined Test) with only a 2.15% screen positive rate. Patients receive their results within 72 hours after the second trimester blood chemistries are taken, usually around 16 to 17 weeks. Additionally, in contrast to the Combined Test, the Integrated 190 Test helps identify pregnancies at increased risk for open neural tube defects.

What happens if a birth defect is discovered through the Combined Test?
If your baby is found to have a serious birth defect, you can receive professional counseling from your healthcare provider and/or genetic counselor about how your child’s physical and mental development may be affected. The individual capabilities and potential of children with birth defects are considerations which you may wish to consider in your decision-making process.

One option would be to continue the pregnancy and make arrangements for appropriate medical services at and after delivery. Other options such as adoption and termination of pregnancy will be discussed with you by your healthcare provider.

Further information and support are available through groups and local organizations as listed below:
- National Down Syndrome Society
  http://www.ndss.org
- National Association for Down Syndrome
  http://www.nads.org
- March of Dimes
  http://www.marchofdimes.com
- Trisomy 18
  http://www.trisomy.org
- Smith-Lemli-Opitz Syndrome
  http://www.smithlemliopitz.org

COMBINED TEST INFORMED CONSENT
I have read and understand the information in this pamphlet regarding screening for The Combined Test.

- Yes, I want to have The Combined Test
- No, I do not want to have The Combined Test

Patient Name: __________________________
Patient Signature: _______________________
Date: ________________

IMPORTANT: Retain Copy in Patient File
Who is at risk?

Without screening, one baby out of every 700 would be born with Down syndrome. Although any woman may give birth to an affected baby, a woman’s risk increases as she ages. The chart above compares the detection rates (the percentage of Down syndrome pregnancies that will be found) with the screen positive rates (the chance that a woman’s test result will be classified as either screen positive or screen negative). Therefore, three out of 20 (15 percent) of pregnancies with Down syndrome will have a screen negative result and so will be missed by the Combined Test. This is because risk assessment tests cannot completely distinguish affected from unaffected pregnancies.

What does the Combined Test detect? 

No. Seventeen of twenty or 85% of pregnancies with Down syndrome will be detected (in the screen positive group). Therefore, three out of 20 (15 percent) of pregnancies with Down syndrome will have a screen negative result and so will be missed by the Combined Test. This is because risk assessment tests cannot completely distinguish affected from unaffected pregnancies.

What does a screen negative test mean?

If the risk of Down syndrome based on age and the level of the three markers is lower than one in 200, then the result is called screen negative and a diagnostic test would not usually be offered.

Although a screen negative test result means that the patient is not at high risk for having a baby with Down syndrome, a screen negative result does not completely rule out the possibility of a pregnancy with Down syndrome.

What are the advantages of having the Combined Test?

The Combined Test is performed in the first trimester, thereby providing results at a point in pregnancy when early diagnostic testing such as chorionic villus sampling (CVS), is available as an option.

What does the Combined Test measure?

After a patient’s serum is drawn, your healthcare provider and laboratory look for two substances in the serum that are markers of Down syndrome. Pregnancy Associated Plasma Protein-A (PAPP-A) and total beta-human chorionic gonadotropin (total β-hCG). In affected pregnancies, the PAPP-A tends to be lower than normal while the total β-hCG levels are usually elevated.

At the same time a specialized ultrasound called Nuchal Translucency (NT) measures the thickness of the fetal neck.

The values of these three markers are used together with the mother’s age to estimate the risk of having a Down syndrome pregnancy. The results of the Combined Test, which will be sent to your healthcare provider, will usually be ready in two working days. Results will be classified as either screen positive or screen negative.

Patients who would consider CVS if they had a screen positive test should have the Combined Test as early as possible, preferably close to 11 weeks, 0 days. About one in 100 to 200 women has a miscarriage as a result of CVS and about one in 270 women has a miscarriage following an amniocentesis. The detection rate for Down syndrome after a CVS or amniocentesis is greater than 99 percent.

What is Chorionic Villus Sampling (CVS)?

CVS is a diagnostic procedure that extracts a small amount of placental material and tests these cells. The material may be obtained through the cervix of the uterus with a very fine straw or via a needle placed through the abdomen. The placenta is usually an excellent source for genetic material of the fetus. This test is performed transcervically or transabdominally after 12 gestation, but only transabdominally after 12 weeks gestation. Results are usually available in five to seven days, and the detection rate is greater than 99 percent for chromosomal abnormalities, such as Down syndrome.
What does a screen negative result mean?
If the risk of Down syndrome, based on the Integrated Test, is lower than 1 in 190 and the AFP level is less than two and one half times the normal level for your stage in pregnancy, then the result is called screen negative and a diagnostic test would not be offered.

Although a screen negative means that you are not at high risk of having a baby with Down syndrome or an open neural tube defect, a screen negative result does not completely rule out the possibility of a pregnancy with either of these abnormalities.

Why do women with screen negative results occasionally have babies with Down syndrome or an open neural tube defect?
It is unusual for women to have a baby with either of these abnormalities, and it is even more unusual for a woman with a screen negative result, but it does sometimes happen.

This is because the screening test cannot completely distinguish affected from unaffected pregnancies. However small the risk is, we cannot rule out the possibility of the baby having Down syndrome or an open neural tube defect.

What is Amniocentesis?
Amniocentesis is a procedure in which the doctor obtains a small sample of fluid that surrounds the developing fetus. The sample is then sent to the laboratory for testing. This fluid sample can be used to diagnose both chromosomal problems such as Down syndrome and Trisomy 18, as well as open neural tube defects such as spina bifida.

Amniocentesis is an invasive procedure, which means that there is a small risk of miscarriage (less than 1 in 200) associated with it. Results of the test for Down syndrome and Trisomy 18 will take about 7-14 days. Results of the test for spina bifida will take about 2-5 days.

No test can guarantee that your baby will be free of all birth defects, but if the result of the amniocentesis is negative, it will almost certainly rule out Down syndrome or other chromosome abnormalities.

What are the advantages of risk assessment?
The test may give you and your healthcare provider important information about your pregnancy and your developing baby. If your baby is found to have a serious birth defect, you can receive professional counseling about how your child’s physical and mental development may be effected. The individual capabilities and potential of children with birth defects are considerations which you may wish to discuss with your genetic counselor or other healthcare provider. Other options, such as adoption and termination of pregnancy may be discussed with you by your healthcare provider. Further information and support are available through groups such as your local Down Syndrome Society and Spina Bifida Association.

Further information and support are available through groups and local organizations as listed below:

March of Dimes [www.marchofdimes.com]
National Down Syndrome Society [www.ndss.org]
National Association for Down Syndrome [www.nads.org]
Trisomy 18 [www.trisomy.org]
Smith-Lemli-Opitz Syndrome [www.smithlemliopitz.org]
Spina Bifida Association [www.sbaa.org]

INTEGRATED TEST INFORMED CONSENT
I have read and understand the information in this pamphlet regarding screening for the Integrated Test.

☐ Yes, I want to have the Integrated Test.
☐ No, I do not want to have the Integrated Test.

Patient Name: __________________________________________
Patient Signature: _______________________________________
Date: __________________________

IMPORTANT: Retain Copy in Patient File
The INTEGRATED Test

Risk Assessment

There are many choices for risk assessment for Down Syndrome as indicated on the graph below. This brochure discusses the Integrated test.

By integrating the measurements from the first and second stages, a single risk assessment result is produced. The NT measurement and the levels of the five markers in your blood are used, together with your age, to estimate your risk of having a Down syndrome pregnancy.

In pregnancies with Down syndrome, PAPP-A, AFP and uE3 levels tend to be low and nuchal translucency measurement, inhibin, and total h-B-hCG levels tend to be raised. The level of AFP in the second blood sample is also used to determine if there is an increased risk of open spina bifida or anencephaly.

What is Down syndrome?

Down syndrome is caused by the presence of an extra chromosome number 21 in the cells of the developing baby. In an unscreened population about 1 in every 700 (1.4 per 1000) babies is born with Down syndrome. Usually it is not inherited and so a baby can be affected even if there is no history of Down syndrome in the family.

Down syndrome is the most common cause of severe mental disability and is often associated with physical problems such as heart defects or difficulty with sight and hearing. It is not possible to assess the degree of handicap before the baby is born. About 9 out of 10 babies with Down syndrome survive their first year and nearly half of these will reach 60 years of age.

What are open neural tube defects?

The two main kinds of neural tube defects (ONTDs) are spina bifida and anencephaly.

Babies with spina bifida have an opening in the spine that can result in damage to the nerves controlling the lower part of the body. This causes weakness and paralysis of the legs, and sometimes bowel and bladder problems. Babies with spina bifida are also more likely to have a collection of fluid on the brain, called hydrocephalus, which can be treated surgically but may lead to mental disability.

Babies with anencephaly have a large part of the skull missing and the brain is not properly formed. They always die before or very soon after they are born. In about 1 in every 5 babies with spina bifida the spinal opening is covered with skin or thick tissue. This is called closed spina bifida and will not be detected by the blood test. This condition is usually less severe than open spina bifida.

Can other abnormalities be identified?

Yes. The risk of two other disorders can be estimated. One is Trisomy 18, a rare and usually fatal disorder caused by the presence of an extra number 18 chromosome in the cells of the developing baby. The risk of Trisomy 18 can be estimated using PAPP-A, AFP, uE3 and total h-B-hCG, and is reported only when the risk is high. The second is called Smith-Lemli-Opitz syndrome, a genetic disorder caused by an error in the synthesis of cholesterol. Smith-Lemli-Opitz syndrome is associated with many problems in the developing baby, most importantly malformations of the and poor growth. The risk of Smith-Lemli-Opitz syndrome can also be estimated using AFP, uE3 and total hBhCG and is reported only when risk is high.

What is a risk?

A risk is the chance of an event occurring. For example, a risk of Down syndrome of 1 in 100 means that if 100 women have this test result, we would expect that 1 of these women would have a baby with Down syndrome and that 99 would not. This is the same as a 1% chance that the baby has Down syndrome and a 99% chance that the baby does not.

Why do you take age into account?

Any woman can have a baby with Down syndrome but the chance of this happening increases as a woman gets older. We use age as one of the factors when working out your risk of pregnancy with Down syndrome. It means that an older woman is more likely to have a result in the higher risk group (screen positive) and be offered a diagnostic test.

Why wait until the second stage to have a risk estimate?

By information from both stages the test is safer and more effective than a test using information from the first stage alone. It will distinguish affected pregnancies more effectively, reducing the chance that a Down syndrome pregnancy is missed. It also reduces the chance that you will need an invasive diagnostic test, such as amniocentesis.

What happens if the ultrasound scan shows that I am too late for the first stage of the test?

We cannot report a screening result for the Integrated Test. You could have a screening test based on the second stage alone (the AFP+QUAD test).

What happens if I cannot attend for the second blood test?

If you do not attend for the second stage of the Integrated test, a screening result cannot be reported. We will try to contact your healthcare provider on two occasions after the recommended date for your second blood sample. If we do not receive your second blood sample a Down syndrome risk is given based on information from the first stage only.

If you know you will not be able to attend for the second blood test, please discuss this with your doctor. You could have the screening based on the first blood test and the ultrasound examination alone (the Combined test) but this is less effective than the Integrated Test.

When will the results of the second stage be available?

The results of the test are usually ready within three working days of the second blood sample being taken. Results are sent to your doctor, midwife or healthcare professional. The result will be either screen negative or screen positive.

Screen positive results are telephoned and faxed to your doctor, healthcare professional, or midwife. If you do not receive your results or have further questions please telephone LENETIX @ (516) 248-0036 to speak to a genetic counselor.

What does a screen positive result for Down syndrome mean?

A screen positive result means that you are in a higher risk group for having a baby with Down syndrome. If your result is in this group, you will be offered a diagnostic amniocentesis.

The result is called screen positive if the risk of Down syndrome in your pregnancy is 1 in 190 or greater. About 1 in every 50 women screened will be in this risk group. Most women with screen positive results do not have a pregnancy with Down syndrome.

What does a screen positive result for open neural tube defects mean?

A screen positive result means that you are in a group with an increased risk of having a baby with an open neural tube defect. If your result is in this group, you will be offered an ultrasound scan examination at 18 to 20 weeks of pregnancy, and possibly an amniocentesis. This is organized by your doctor or hospital. The result is screen positive if the AFP level is equal to or higher than two and one half times the normal (median) level for your stage in pregnancy.
What does a screen negative result mean?
If the risk of Down syndrome, based on the Integrated 190, is lower than 1 in 190 and the AFP level is less than two and one half times the normal level for your stage in pregnancy, then the result is called screen negative and a diagnostic test would not be offered.

Although a screen negative means that you are not at high risk of having a baby with Down syndrome or an open neural tube defect, a screen negative result does not completely rule out the possibility of a pregnancy with either of these abnormalities.

Why do women with screen negative results occasionally have babies with Down syndrome or an open neural tube defect?
It is unusual for women to have a baby with either of these abnormalities, and it is even more unusual for a woman with a screen negative result, but it does sometimes happen.

This is because the screening test cannot completely distinguish affected from unaffected pregnancies. However small the risk is, we cannot rule out the possibility of the baby having Down syndrome or an open neural tube defect.

What is Amniocentesis?
Amniocentesis is a procedure in which the doctor obtains a small sample of fluid that surrounds the developing fetus. The sample is then sent to the laboratory for testing. This fluid sample can be used to diagnose both chromosomal problems such as Down syndrome and Trisomy 18, as well as open neural tube defects such as spina bifida.

Amniocentesis is an invasive procedure, which means that there is a small risk of miscarriage (less than 1 in 200) associated with it. Results of the test for Down syndrome and Trisomy 18 will take about 7-14 days. Results of the test for spina bifida will take about 2-5 days.

No test can guarantee that your baby will be free of all birth defects, but if the result of the amniocentesis is negative, it will almost certainly rule out Down syndrome or other chromosome abnormalities.

What are the advantages of risk assessment?
The test may give you and your healthcare provider important information about your pregnancy and your developing baby. If your baby is found to have a serious birth defect, you can receive professional counseling about how your child’s physical and mental development may be affected. The individual capabilities and potential of children with birth defects are considerations which you may wish to discuss with your genetic counselor or other healthcare provider. Other options, such as adoption and termination of pregnancy may be discussed with you by your healthcare provider. Further information and support are available through groups such as your local Down Syndrome Society and Spina Bifida Association.

Further information and support are available through groups and local organizations as listed below:
- March of Dimes: www.marchofdimes.com
- National Down Syndrome Society: www.ndss.org
- National Association for Down Syndrome: www.nads.org
- Trisomy 18: www.trisomy.org
- Smith-Lemli-Opitz Syndrome: www.smithlemliopitz.org
- Spina Bifida Association: www.spbaa.org

No test can guarantee that your baby will be free of all birth defects, but if the result of the amniocentesis is negative, it will almost certainly rule out Down syndrome or other chromosome abnormalities.
There are many choices for risk assessment for Down Syndrome as indicated on the graph below. This brochure discusses the Integrated 190 Test.

Integrated 190 Risk Assessment

The second stage involves:

- Taking a second sample of your blood to measure the concentration of pregnancy associated plasma protein-A (PAPP-A).
- ß-hCG levels to be low and molar transilucency measurement, inhibin, and total ß-hCG levels tend to be raised. The level of AFP in the second sample is also used to determine if there is an increased risk of open spina bifida or anencephaly.

What is Down syndrome?

Down syndrome is caused by the presence of an extra chromosome number 21 in the cells of the developing baby. In an unscreened population about 1 in 700 (1.4 per 1000) babies are born with Down syndrome. Usually it is not inherited and so a baby can be affected even if there is no history of Down syndrome in the family.

Down syndrome is the most common cause of severe mental disability and is often associated with physical problems such as heart defects or difficulty with sight and hearing. It is not possible to assess the degree of handicap before the baby is born. About 9 out of 10 babies with Down syndrome will survive their first year and nearly half of these will reach 60 years of age.

What are open neural tube defects?

The two main kinds of open neural tube defects (ONTDs) are spina bifida and anencephaly.

Babies with spina bifida have an opening in the spine that can result in damage to the nerves controlling the lower part of the body. This causes weakness and paralysis of the legs, and sometimes bowel and bladder problems. Babies with anencephaly are also more likely to have a collection of fluid on the brain, called hydrocephalus, which can be treated surgically but may lead to mental disability.

Babies with anencephaly have a large part of the skull missing and the brain is not properly formed. They usually die before or very soon after they are born. In about 1 in every 5 babies with spina bifida the spinal opening is covered with skin or thick tissue. This is called closed spina bifida and will not be detected by the blood test. This condition is usually less severe than open spina bifida.

Can other abnormalities be identified?

Yes. The risk of two other disorders can be estimated. One is Trisomy 18, a rare and usually fatal disorder caused by the presence of an extra number 18 chromosome in the cells of the developing baby. The risk of Trisomy 18 can be estimated using PAPP-A, AFP, ß-hCG and total ß-hCG, and is reported only when the risk is high. The second is called Smith-Lemli-Opitz syndrome, a genetic disorder caused by an error in the synthesis of cholesterol. Smith-Lemli-Opitz syndrome is associated with many problems in the developing baby, most important are mental retardation and poor growth.

The result is called positive if the AFP level is equal to or higher than two and one half times the normal median level for your stage in pregnancy.

What happens if the ultrasound scan shows that I am too late for the first stage of the test?

We cannot report a screening result for the Integrated 190 Test. You could have a screening test based on the second stage alone (the AFP+QUAD test).

What happens if I cannot attend for the second blood test?

If you do not attend for the second stage of the Integrated 190 Test, a screening result cannot be reported. We will try to contact your healthcare provider on two occasions after the recommended date for your second blood sample. If we do not receive your second blood sample a Down syndrome risk is given based on information from the first stage only.

If you know you will not be able to attend for the second blood test, please discuss this with your doctor. You could have the screening based on the first blood test and the ultrasound examination alone (the Combined test) but this is less effective than the Integrated 190 Test.

When will the results of the second stage be available?

The results of the test are usually ready within three working days of the second blood sample being taken. Results are sent to your doctor, midwife or healthcare professional.

The result will be either screen negative or screen positive.

Screen positive results are telephoned and faxed to your doctor, healthcare professional, or midwife. If you do not receive your results or have further questions please telephone a LENETIX® representative at (516) 320-6370 to speak to a genetic counselor.

What does a screen positive result for Down syndrome mean?

A screen positive result means that you are in a higher risk group for having a baby with Down syndrome. If your result is in this group, you will be offered a diagnostic amniocentesis.

The result is called screen positive if the risk of Down syndrome in your pregnancy is 1 in 190 or greater. Most women with screen positive results do not have Down syndrome with Down syndrome.

What does a screen positive result for open neural tube defects mean?

A screen positive result means that you are in a group with an increased risk of having a baby with an open neural tube defect. If your result is in this group, you will be offered an ultrasound examination at 18 to 20 weeks of pregnancy, and possibly an amniocentesis. This is organized by your doctor or hospital. The result is screen positive if the AFP level is equal to or higher than two and one half times the normal (median) level for your stage in pregnancy.
Amniocentesis is an invasive procedure, which means that there is a small risk of miscarriage (less than 1 in 200) associated with it. Results of the test for Down syndrome and Trisomy 18 will take about 7-14 days. Results of the test for open spina bifida will take about 2-5 days.

No test can guarantee that your baby will be free of all birth defects, but if the result of the amniocentesis is negative, it will almost certainly rule out Down syndrome and/or other chromosome abnormalities.

What are the advantages of risk assessment?
The test may give you and your healthcare provider important information about your pregnancy and your developing baby. If your baby is found to have a serious birth defect, you can receive professional counseling about how your child’s physical and mental development may be affected. The individual capabilities and potential of children with birth defects are considerations which you may wish to discuss with your genetic counselor or other healthcare provider. Other options, such as adoption and termination of pregnancy may be discussed with you by your healthcare provider. Further information and support are available through groups such as your local Down Syndrome Society and Spina Bifida Association.

Further information and support are available through groups and local organizations as listed below:

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Spina Bifida Association www.sbaa.org
Trisomy 18 www.trisomy.org

The information included in this pamphlet is not intended as a substitute for personal medical advice. Specific situations always require a personal consultation with your healthcare provider.
The MODIFIED SEQUENTIAL Test

Risk Assessment

What does the Modified Sequential test involve?

The Modified Sequential test is performed in two stages. The first stage is ideally performed at 12 weeks of pregnancy, but may be performed as early as 15 weeks and no later than 22 weeks.

The first stage involves:

- An Ultrasound scan examination to precisely determine the gestational age of the pregnancy through the crown rump length (CRL) of the baby.
- Taking a sample of your blood to measure the concentration of pregnancy associated plasma protein-A (PAPP-A) and total human chorionic gonadotropin (total h-HCG).
- A Nuchal Translucency (NT) measurement between 11 weeks 0 days and 13 weeks 6 days.

After the first stage evaluation two risk groups are identified.

1. High risk: Patients at a risk of 1 in 200 or greater are offered genetic counseling and the option of an invasive diagnostic test such as CVS or amniocentesis. (See “What does a screen positive result for Down Syndrome Mean?”)
2. The remaining patients will benefit from proceeding to the second stage.

The second stage involves:

Taking a second blood sample to measure the concentration of four different markers:

- alpha-fetoprotein (AFP)
- unconjugated estriol (uE3)
- inhibin-A
- total human chorionic gonadotropin (total h-HCG)

The NT measurement and the levels of the five markers in your specimen are used, together with your age, to estimate your risk of having a Down syndrome pregnancy. In pregnancies with Down syndrome, PAPP-A, AFP and uE3 levels tend to be decreased and nuchal translucency measurement, inhibin, and total h-HCG levels tend to be increased compared to unaffected pregnancies. The level of AFP in the second blood sample is also used to determine if there is an increased risk of open spina bifida, anencephaly or an abnormal opening of the baby’s abdominal wall.

What is the Modified Sequential test?

The Modified Sequential test (MST) is a screening test which measures the AFP level in the first stage and the AFP level and the ß-hCG level in the second stage. The test is performed in two stages to allow a risk estimation to be given based on information from the first stage only.

Screen positive results are telephoned and faxed to your doctor, midwife or healthcare provider. You could have a screening test based on the second stage alone (the AFP + ß-hCG test).

Why is your age taken into account?

Any woman can have a baby with Down syndrome but the chance of this happening increases as a woman gets older. We use age as one of the factors when working out your risk of Down syndrome. It means that an older woman is more likely to have a result in the higher risk group (screen positive) and be offered a diagnostic test.

Why will some patients have to wait until the second stage to have a risk estimate?

Patients with high risk results have been identified in the first stage. Risk assessment ends for them. The remainder of patients proceed to the second stage. At this point, adding additional markers helps distinguish affected from unaffected pregnancies more effectively and reduces the chances that a Down syndrome pregnancy is missed. It also reduces the chance that an invasive diagnostic test, such as amniocentesis will be indicated.

What happens if I am too late for the first stage of the Modified Sequential test?

We cannot report a screening result for the Modified Sequential test. You could have a screening test based on the second stage alone (the AFP + ß-hCG test).

When will the results of the second stage be available?

The results of the test are usually ready within three working days of the second blood sample being taken. Results are sent to your doctor, midwife or healthcare provider. The result will be either screen negative or screen positive. Screen positive results are telephoned and faxed to your doctor, midwife or healthcare provider. If you do not receive your results or have further questions please telephone LENETIX® at (516) 248-0036 to speak with a genetic counselor.

What does a screen negative result mean?

If the result of Down syndrome, based on the Modified Sequential test, is lower than 1 in 270 and the AFP level is less than two and one half times the normal level for your stage in pregnancy, then the result is called screen negative and a diagnostic test would not be offered. Although a screen negative means that you are not at high risk of having a baby with Down syndrome or an open neural tube defect, a screen negative result does not completely rule out the possibility of a pregnancy with either of these abnormalities.