

Guidance for use of Fetal Fibronectin (fFN)
Admissions Triage Area
Queen Mother's Hospital

To help predict preterm delivery, women with symptoms of preterm labour should be screened for the presence of fetal fibronectin (fFN).

The presence of fFN in the cervico-vaginal secretions of symptomatic women during weeks 22 through 34 of gestation (5 1/2 to 8 1/2 months) indicates an increased risk of preterm delivery. However, the absence of fFN is a more reliable predictor that the pregnancy will continue for at least another two weeks.

The Role of Fetal Fibronectin

Fetal fibronectin (fFN) is a protein produced during pregnancy and functions as a biological glue, attaching the fetal sac to the uterine lining. During the first trimester, and for about half of the second trimester (up to 22 weeks of gestation), fFN is normally present in the cervico-vaginal secretions of pregnant women. In most pregnancies, after 22 weeks this protein is no longer detected until the end of the last trimester (one to three weeks before labour).

The presence of fFN during weeks 22-34 of a high-risk pregnancy, along with symptoms of labour, suggests that the "glue" is disintegrating ahead of schedule and alerts doctors to the possibility of a preterm delivery. A number of factors are associated with a high risk of preterm delivery. Leading risk factors include a previous preterm birth, multiple pregnancy, an incompetent cervix (a cervix that dilates too early in the pregnancy), uterine abnormalities and amniotic fluid infection. Lesser risk factors include vaginal infections and sexually transmitted diseases, maternal smoking and drug abuse, poor nutrition, insufficient weight gain, and poor prenatal care. Stress, genetic predisposition, environmental toxins and high levels of caffeine consumption may also contribute to preterm delivery.

The fFN Test

A cotton swab is used to collect samples of cervico-vaginal secretions during a speculum examination (similar to a Pap smear). The analysis of the collected sample takes six to 36 hours to complete. The result is either positive (fFN is present), or negative (fFN is not present). The results are valid for up to two weeks from the date of the test. A negative fFN test result is a highly reliable predictor that delivery will not occur within the next two weeks. A positive result is a less reliable predictor of preterm labour: there is still a fair chance that the pregnancy will continue for at least another two weeks.

Recommendations

The greatest value of the fFN test is the high level of reliability of a negative test result. A negative test result reassures medical providers and expectant parents that the risk of preterm delivery is currently low, and helps reduce the need for medical interventions. A positive fFN result, while less reliable, allows doctors and patients to take preventive measures to delay labor for as long as possible, by hospitalization and/or administering labour-suppressing (tocolytic) medications, but these interventions are not highly effective. Extra time may also allow for treatments such as giving corticosteroids to mothers, which can hasten

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fetal lung maturation and so improve the survival rates and outcome for premature infants.

The American College of Obstetricians and Gynecologists (ACOG) currently does not recommend the test for routine screening, as its use has not been shown to be clinically effective in predicting preterm labour in low-risk, asymptomatic pregnancies.

For all these reasons, it is advisable for health care providers to do fFN testing only for symptomatic, high-risk pregnancies, where preterm labour is suspected.

This document is for information purposes only and is not medical advice. For more information, you should consult your health care provider.

References

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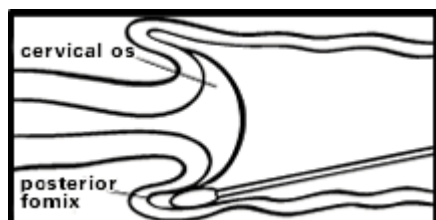
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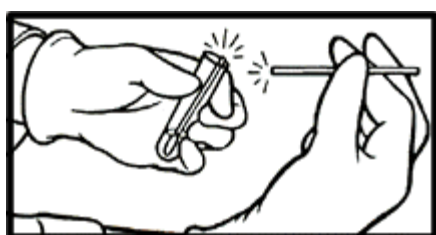
How to collect the fFN Specimen

The fFN (fetal fibronectin) specimen must be collected during a speculum examination before any other exam is performed. Lubricating gels will interfere with the test results.

1. During speculum examination, prior to any examination or manipulation of the cervix or the vaginal tract, lightly rotate the swab across the posterior fornix of the vagina for 10 seconds to absorb cervicovaginal secretion.



2. Remove applicator and insert the tip into test tube with buffer. Mix vigorously in the buffer for 10 – 15 seconds. Discard applicator.
3. Insert test strip (dip area) into the buffer for **exactly** 10 minutes.
4. Remove test strip and read result.



For accurate patient results

1. Specimens should be obtained prior to digital examination or manipulation of the cervix. Manipulations of the cervix within 24 hours of collection may lead to false positive results.
2. Care must be taken not to contaminate cervicovaginal fluid with topical agents such as lubricants, soaps, disinfectants or creams (K-Y Jelly, Betadine, hexachlorophene). These substances may interfere with the specimen collection process and/or the antibody-antigen reaction of the *Quik* check fFN test.
3. Patient samples should not be collected if the patient has had sexual intercourse within 24 hours to eliminate false positive results.
4. Patients with suspected or known placental abruption, placenta previa or moderate or gross vaginal bleeding should not be tested.

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Interpretation Guide

A positive (+) patient result will appear as two lines, a test line and a control line. The presence of a very light test line should be interpreted as a positive result.

A negative (-) patient result will appear as one distinct line, a control line.

The absence of a distinct control line should be interpreted as an invalid result.

