Geisinger

Geisinger Health Plan Policies and Procedure Manual

Policy: MP271

Section: Medical Benefit Policy

Subject: Non-Invasive Testing for Fetal Aneuploidy and Microdeletions

Applicable Lines of Business

Commercial	**X**	**CHIP**	**X**
Medicare	**X**	**ACA**	**X**
Medicaid	**X**		

I. Policy: Non-Invasive Testing for Fetal Aneuploidy and Microdeletions

II. Purpose/Objective:

To provide a policy of coverage regarding Non-Invasive Testing for Fetal Aneuploidy and Microdeletions

III. Responsibility:

A. Medical Directors
B. Medical Management

IV. Required Definitions

1. Attachment – a supporting document that is developed and maintained by the policy writer or department requiring/authoring the policy.
2. Exhibit – a supporting document developed and maintained in a department other than the department requiring/authoring the policy.
3. Devised – the date the policy was implemented.
4. Revised – the date of every revision to the policy, including typographical and grammatical changes.
5. Reviewed – the date documenting the annual review if the policy has no revisions necessary.

V. Additional Definitions

Medical Necessity or Medically Necessary means Covered Services rendered by a Health Care Provider that the Plan determines are:

a. appropriate for the symptoms and diagnosis or treatment of the Member's condition, illness, disease or injury;
b. provided for the diagnosis, and the direct care and treatment of the Member's condition, illness disease or injury;
c. in accordance with current standards of good medical treatment practiced by the general medical community.
d. not primarily for the convenience of the Member, or the Member's Health Care Provider; and
e. the most appropriate source or level of service that can safely be provided to the Member. When applied to hospitalization, this further means that the Member requires acute care as an inpatient due to the nature of the services rendered or the Member's condition, and the Member cannot receive safe or adequate care as an outpatient.

Medicaid Business Segment

Medically Necessary — A service, item, procedure, or level of care that is necessary for the proper treatment or management of an illness, injury, or disability is one that:

- Will, or is reasonably expected to, prevent the onset of an illness, condition, injury or disability.
- Will, or is reasonably expected to, reduce or ameliorate the physical, mental or developmental effects of an illness, condition, injury or disability.

- Will assist the Member to achieve or maintain maximum functional capacity in performing daily activities, taking into account both the functional capacity of the Member and those functional capacities that are appropriate for Members of the same age

DESCRIPTION:
Non-invasive prenatal testing (NIPT) describes a family of tests that rely on the analysis of cell-free DNA (cfDNA) fragments, derived from the placenta, in the plasma of a pregnant person. This technology is designed to screen fetuses for common autosomal trisomies (trisomy 21, 18, and 13) and is not a diagnostic test. The sensitivity and specificity has improved over time in the context of fetal aneuploidy detection. There are two methods to testing: chromosome counting and SNP-based testing. SNP-based testing has a higher accuracy and lower sample fail rate as well as the ability to detect triploidy. Some NIPT laboratories also test for sex chromosome abnormalities (Monosomy X [Turner syndrome], XXY [Klinefelter syndrome], XXX, XYY, and various more complex karyotypes),

NIPT is not validated in multiples (eg: greater than twin pregnancy) and not recommended for screening.

Emerging technology includes expanded aneuploidy screening involving the other autosomes exists but the utility remains unclear in low risk pregnancies. NIPT and cfDNA technology has been applied to the screening of specific autosomal dominant and autosomal recessive disorders with serious health implications. These are monogenic conditions referring to a group of human conditions caused by inherited or de novo pathogenic variants in a single gene. Although individually rare, in aggregate, they are common and many have chronic implications for patients with some being life-limiting.

The American College of Obstetricians and Gynecologists (ACOG)'s clinical recommendations for Screening for Fetal Chromosomal Abnormalities (Practice Bulletin #226) provides an evidence-based analysis of the available medical literature that resulted in the recommendation that all patients should be offered both screening and diagnostic testing options, regardless of maternal age and risk of chromosomal abnormality. Chromosomal abnormalities occur in approximately 1 in 150 live births and the incidence of fetal chromosomal abnormalities increases as a woman ages but can affect patients at any age and is not related to race or ethnicity.

There are several different tests available for identifying these aneuploidies. These tests include, but are not limited to
- QNatal Test (Quest Laboratory)
- MaterniT21™ Plus Tests LabCorp)
- Verifi™ Prenatal Test
- Harmony Prenatal Test Roche Diagnostics)
- Panorama™ or Vasistera™ Prenatal Test [(Natera)]
- Prequel Prenatal Screen (Myriad Genetics).

There are several different cffDNA tests available for identifying RhD status in a fetus, including but not limited to :
- Panorama™ Prenatal test with RhD (Natera)
- Billion to One RhD

INDICATIONS:
Non-Invasive Testing for Fetal Aneuploidy NIPT
NIPT may be considered to be medically necessary when all of the following criteria are met:

1. The testing is ordered by an obstetric, fertility, or family medicine care provider;
2. The member is currently pregnant with a singleton or twin pregnancy; and
3. The member is at least 9 weeks 0 days gestational age by LMP or ultrasound; and
4. The member desires information about the chance for a pregnancy affected by a chromosomal aneuploidy

Non-Invasive Testing for Fetal Triploidy
1. Repeat NIPT may be considered medically necessary when a current pregnancy demonstrates signs of a molar or partial molar pregnancy, but ultrasound alone is insufficient for diagnosis; or
2. Limited NIPT was completed during the member's current pregnancy but did not include analysis for triploidy

Non-Invasive fetal antigengenotyping (example: RhD Screening)

Screening for fetal RhD status using cell-free fetal DNA is considered to be **medically necessary.**

Non-Invasive Prenatal Testing for single gene, autosomal dominant disorders (example: Natera Vistara)
Vistara testing is considered medically necessary in the following scenarios:

1. The member's pregnancy is considered high risk due to the father or sperm donor of the pregnancy being classified as advanced paternal age (45y or older); or
2. The member's pregnancy is affected by an ultrasound-proven anomaly; or
   There is family history of one of the disorders evaluated on the screening test and invasive testing has been declined or is not available that the current gestational age.

LIMITATION:
Noninvasive prenatal testing (NIPT) using cell free fetal DNA in maternal plasma for trisomy 13 and/or 18 is considered to be experimental, investigational or unproven, unless performed with trisomy 21 screening analysis.

EXCLUSIONS:
The use of Non-Invasive Testing for Fetal Aneuploidy for any indication not conforming the criteria listed in this policy is considered to be **experimental, investigational or unproven**, and therefore **NOT COVERED**.

Noninvasive prenatal testing using cffDNA for expanded aneuploidy screening in a low risk pregnancy is considered to be experimental, investigational or unproven, and therefore **NOT COVERED**

The use of cell-free DNA (cfDNA) for screening and diagnosis of single-gene disorders (e.g., Billion To One UNITY Screen) is an evolving technology, and its application at this time is limited. At this time, it is considered to be **experimental, investigational or unproven**, and therefore **NOT COVERED**.

The use of cell-free DNA (cfDNA) for screening and diagnosis of microdeletions (e.g., DiGeorge syndrome, Prader-Willi syndrome, Angelman syndrome, 1p36 deletion syndrome, Cri-du-chat syndrome, Wolf-Hirschhorn, Miller-Dieker), or aneupoidies other than trisomy 13, 18, or 21 is considered to be **experimental, investigational or unproven**, and therefore **NOT COVERED**.

The use of Non-Invasive Testing for Fetal Aneuploidy to determine the sex of fetus is not medically necessary, and therefore is **NOT COVERED** in the absence of increased risk of Turner Syndrome or congenital adrenal hyperplasia.

Nucleic acid sequencing-based testing of maternal plasma for microdeletions and single gene disorders is considered to be experimental, investigational or unproven, and therefore **NOT COVERED.**

According to the American College of Obstetricians and Gynecologists Practice Bulletin No. 163: Screening for Fetal Aneuploidy*: "Without published clinical validation trials, some laboratories have begun to offer cell-free DNA screening for additional disorders, including two forms of aneuploidy associated with nonviable pregnancies (trisomy 16 and trisomy 22) and five or more microdeletion syndromes. A microdeletion syndrome is caused by a chromosomal deletion encompassing contiguous genes that is too small to be detected by conventional cytogenetics. Given the rarity of these disorders, it is uncertain what a positive or negative screening test result means. Cell-free DNA screening tests for microdeletions have not been validated clinically and are not recommended at this time."*

Medicaid Business Segment:
Any requests for services, that do not meet criteria set in the PARP, may be evaluated on a case by case basis

Note: A complete description of the process by which a given technology or service is evaluated and determined to be experimental, investigational or unproven is outlined in MP 15 - Experimental Investigational or Unproven Services or Treatment.

CODING ASSOCIATED WITH: Non-Invasive Testing for Fetal Aneuploidy
The following codes are included below for informational purposes and may not be all inclusive. Inclusion of a procedure or device code(s) does not constitute or imply coverage nor does it imply or guarantee provider reimbursement. Coverage is determined by the member specific benefit plan document and any applicable laws regarding coverage of specific services. Please note that per Medicare coverage rules, only specific CPT/HCPCS Codes may be covered for the Medicare Business Segment. Please consult the CMS website at www.cms.gov ***or the local Medicare Administrative Carrier (MAC) for more information on Medicare coverage and coding requirements.***

84999 Unlisted chemistry procedure
81420 Fetal chromosomal aneuploidy (eg, trisomy 21, monosomy X) genomic sequence analysis panel, circulating cell-free fetal DNA in maternal blood, must include analysis of chromosomes 13, 18, and 21 *{ Panorama, Materniti 21, Prequel. Invitae}*
81422 Fetal chromosomal microdeletion(s) genomic sequence analysis (e.g., DIGeorge syndrome, Cri-du-chat

syndrome), circulating cell-free fetal DNA in maternal blood *{ Panorama w/microdeletion, QNatal Advanced, MaterniT21 Plus Core + ESS, Prequel Prenatal Screen + Microdeletions, Invitae NIPS + Select Microdeletions*}

81507 Fetal aneuploidy(trisomy 21,18, and 13) DNA sequence analysis of selected regions using maternal plasma, algorithm reported as a risk score for each trisomy *{ Harmony}*

0060U Twin zygosity, genomic targeted sequence analysis of chromosome 2, using circulating cell-free fetal DNA in maternal blood {Panorama - with microdeletion syndromes}

0009M Fetal aneuploidy (trisomy 21, and 18) DNA sequence analysis of selected regions using maternal plasma, algorithm reported as a risk score for each trisomy

0168U Fetal aneuploidy (trisomy 21, 18, and 13) DNA sequence analysis of selected regions using maternal plasma without fetal fraction cutoff, algorithm reported as a risk score for each trisomy

0252U Fetal aneuploidy short tandem–repeat comparative analysis, fetal DNA from products of conception, reported as normal (euploidy), monosomy, trisomy, or partial deletion/duplications, mosaicism, and segmental aneuploidy

0341U Fetal aneuploidy DNA sequencing comparative analysis, fetal DNA from products of conception, reported as normal (euploidy), monosomy, trisomy, or partial deletion/duplication, mosaicism, and segmental aneuploid (Single Cell Prenatal Diagnosis (SCPD) Test)

0327U Fetal aneuploidy (trisomy 13, 18, and 21), DNA sequence analysis of selected regions using maternal plasma, algorithm reported as a risk score for each trisomy, includes sex reporting, if performed

LINE OF BUSINESS:

Eligibility and contract specific benefits, limitations and/or exclusions will apply. Coverage statements found in the line of business specific benefit document will supersede this policy. For Medicare, applicable LCD's and NCD's will supercede this policy. For PA Medicaid Business segment, this policy applies as written.

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This policy will be revised as necessary and reviewed no less than annually.

Devised: 12/12

Revised: 4/13(added other laboratories); 4/15 (additional testing); 4/16 (remove prior auth requirement), 5/17; 5/20 (added exclusions); 5/21 (revise indications, add exclusion); 5/22 (revise Indications and Exclusions); 5/23 (add cfDNA indication and exclusion); 5/24 (revised general information, indications and added exclusion)

Reviewed: 4/14, 5/18, 5/19

CMS UM Oversight Committee Approval: 12/23, 7/24

Geisinger Health Plan may refer collectively to health care coverage sponsors Geisinger Health Plan, Geisinger Quality Options, Inc., and Geisinger Indemnity Insurance Company, unless otherwise noted. Geisinger Health Plan is part of Geisinger, an integrated health care delivery and coverage organization.

Coverage for experimental or investigational treatments, services and procedures is specifically excluded under the member's certificate with Geisinger Health Plan. Unproven services outside of an approved clinical trial are also specifically excluded under the member's certificate with Geisinger Health Plan. This policy does not expand coverage to services or items specifically excluded from coverage in the member's certificate with Geisinger Health Plan. Additional information can be found in MP015 Experimental, Investigational or Unproven Services.

Prior authorization and/or pre-certification requirements for services or items may apply. Pre-certification lists may be found in the member's contract specific benefit document. Prior authorization requirements can be found at https://www.geisinger.org/health-plan/providers/ghp-clinical-policies