KAISER PERMANENTE®

Review Criteria

Georgia Region

DEPARTMENT **QUALITY RESOURCE MANAGEMENT**	CRITERIA NUMBER	01-30
SECTION **UTILIZATION MANAGEMENT**	EFFECTIVE DATE	6/28/2013
TITLE **Genetic Testing including CMS Coverage for NGS**	REVIEW DATES	2/14/2018 2/4/2019 1/3/2020 1/21/2021 1/10/2022 2/28/2023
	REVISION DATE	4/22/2016
POLICY TYPE **New xReviewed Revised**	PAGE NUMBER	Page 1 of 2

Purpose: This policy provides the indications and contraindications necessary for the Quality Resource Management staff to make the most appropriate decision related to the medical necessity of the procedure listed.

DIAGNOSIS/CONDITION:
CPT-4/ HCPCS CODE AND DESCRIPTION: INDICATORS

1.0 INDICATIONS

Genetic testing is complex, and approval should be based on medical necessity.
Indications for Genetic testing:

- The member displays clinical features, or is at direct risk of inheriting the mutation in question (pre-symptomatic); *and*
- **The result of the test will directly impact the treatment being delivered to the member; *and***
- After history, physical examination, pedigree analysis, genetic counseling, and completion of conventional diagnostic studies, a definitive diagnosis remains uncertain.
- **Genetic consult with contracted provider, or a telephone consult with the contracted lab cytogeneticist for previously reported positive results is required prior to genetic testing for the patient, or, if indicated, for biologic family members**
- **Some Prenatal genetic testing does not require genetic counseling ie. carrier screening and prenatal screening for aneuploidy.**
- **Exception: Breast Cancer Gene Assay: OncotypeDx- meeting MCG criteria may be approved if ordered by oncologist or surgeon since it is established standard testing.**

Request for genetic testing for Breast cancer (called Gene expression assay also called Oncotype DX. This testing is done by lab called Genomic Health. There is MCG criteria for this testing for breast cancer. – see below.

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MCG criteria for Breast cancer gene expression Assay (Oncotype DX)

- Reverse transcriptase-polymerase chain reaction assay for breast cancer gene expression (Onco*type* DX) may be indicated when **ALL** of the following are present(1)(2)(3)(4):
    - Newly diagnosed carcinoma of breast, and **ALL** of the following:
        - Axillary node biopsy is negative for tumor.
        - Histology demonstrates ductal, lobular, mixed, or metaplastic carcinoma.
        - Pathologic stage is I or II.
        - Patient is female.
        - Primary tumor is estrogen receptor positive.
        - Primary tumor is HER2 receptor-negative.(5)(12)
    - Outcome of testing will guide decision making regarding adjuvant chemotherapy.

These additional tests are commonly ordered by Pediatrics and may be reviewed without requiring Genetic counselling:

- Chromosomal Microarray, Postnatal, ClariSure (R)Oligo-SNP 16478.-misc order
- 88262B standard karyotype test
- 234586 Fragile X test

CMS Coverage for Next Generation Sequencing (NGS) for Advanced Cancer

Effective 3/2018 - Implemented 4/2019

Item/Service Description

A. General

Clinical laboratory diagnostic tests can include tests that, for example, predict the risk associated with one or more genetic variations. In addition, in vitro companion diagnostic laboratory tests provide a report of test results of genetic variations and are essential for the safe and effective use of a corresponding therapeutic product. Next Generation Sequencing (NGS) is one technique that can measure one or more genetic variations as a laboratory diagnostic test, such as when used as a companion in vitro diagnostic test.

Patients with cancer can have recurrent, relapsed, refractory, metastatic, and/or advanced stages III or IV of cancer. Clinical studies show that genetic variations in a patient's cancer can, in concert with clinical factors, predict how each individual responds to specific treatments.
In application, a report of results of a diagnostic laboratory test using NGS (i.e., information on the cancer's genetic variations) can contribute to predicting a patient's response to a given drug: good, bad, or none at all. Applications of NGS to predict a patient's response to treatment occurs ideally prior to initiation of such treatment.

Indications and Limitations of Coverage
B. Nationally Covered Indications
Effective for services performed on or after March 16, 2018, the Centers for Medicare & Medicaid Services (CMS) has determined that Next Generation Sequencing (NGS) as a diagnostic laboratory test is reasonable and necessary and covered nationally, when performed in a Clinical Laboratory Improvement Amendments (CLIA)-certified laboratory, when ordered by a treating physician, and when all of the following requirements are met:
1. Patient has:
- either recurrent, relapsed, refractory, metastatic, or advanced stage III or IV cancer; and,
- either not been previously tested using the same NGS test for the same primary diagnosis of cancer, or repeat testing using the same NGS test only when a new primary cancer diagnosis is made by the treating physician; and,
- decided to seek further cancer treatment (e.g., therapeutic chemotherapy).

2. The diagnostic laboratory test using NGS must have:
- Food & Drug Administration (FDA) approval or clearance as a companion in vitro diagnostic; and,
- an FDA-approved or -cleared indication for use in that patient's cancer; and,
- results provided to the treating physician for management of the patient using a report template to specify treatment options.

C. Nationally Non-Covered
Effective for services performed on or after March 16, 2018, NGS as a diagnostic laboratory test for patients with cancer are non-covered if the cancer patient does not meet the criteria noted in section B.1. above.

D. Other
1. Effective for services performed on or after March 16, 2018, Medicare Administrative Contractors (MACs) may determine coverage of other NGS as a diagnostic laboratory test for patients with cancer only when the test is performed in a CLIA-certified laboratory, ordered by a treating physician, and the patient has:

- either recurrent, relapsed, refractory, metastatic, or advanced stages III or IV cancer and,
- either not been previously tested using the same NGS test for the same primary diagnosis of cancer or repeat testing using the same NGS test was performed only when a new primary cancer diagnosis is made by the treating physician; and,
- decided to seek further cancer treatment (e.g., therapeutic chemotherapy).

(This NCD last reviewed March 2018.)

2.0 CONTRAINDICATIONS

3.0 VIEWS OF THE SOUTHEAST PERMANENTE MEDICAL GROUP- Request for genetic testing should meet medical necessity criteria, and patients should be evaluated by genetic counselor prior to testing with above exceptions noted.

- **4.0 REFERENCES:**

Scal Tech Resource:
1) Jaime L. Natoli, MS, MPH
Senior Consultant, Technology Assessment and Guidelines Unit
Department of Clinical Analysis, SCPMG
393 E. Walnut Street, 3rd Floor
Pasadena, CA 91188
626-405-3051 (tie line: 8-335-3051)

Genetics Home Reference (http://ghr.nlm.nih.gov/) -- Easy-to-understand summaries on 700+ conditions, including links to other reliable resources.

- **GeneReviews** (http://www.ncbi.nlm.nih.gov/books/NBK1116/) -- GeneReviews are expert-authored, peer-reviewed disease descriptions that apply genetic testing to the diagnosis, management, and genetic counseling of patients and families with specific inherited conditions. An excellent "first stop" for background info on most genetic conditions.
- **GeneTests** (http://www.ncbi.nlm.nih.gov/sites/GeneTests/lab?db=genetests) -- The Laboratory Directory is a voluntary listing of US and international laboratories offering in-house molecular genetic testing, specialized cytogenetic testing, and biochemical testing for inherited disorders. GeneTests is searchable and links to GeneReviews.
- **Online Mendelian Inheritance in Man (OMIM)** (http://www.ncbi.nlm.nih.gov/omim) -- OMIM is a comprehensive, authoritative, and timely compendium of human genes and genetic phenotypes. The full-text referenced overviews in OMIM contain information on all known mendelian disorders and over 12,000 genes. OMIM focuses on the relationship between phenotype and genotype.
- **Hayes Updates for specific Genetic test**
- ECRIgene.com

Reference:

UptoDate: Genetic Testing- December 2020

Genetic testing can refer to any type of testing that helps determine the genotype (the DNA blueprint) of an individual, either in the germline or selected somatic cells such as a tumor. Terminology used to describe the results of clinical genetic testing is shifting to avoid nonspecific, pejorative, or confusing terms such as mutation or polymorphism and instead to use the term variant, which refers to a difference from a reference sequence, along with a qualifier about pathogenicity. These and other terms are defined in the table (table 1) and discussed above. (See 'Terminology' above.)

●Testing can involve a single gene, a panel of genes, or the entire exome or genome. For each gene, it is possible to analyze a single variant (eg, factor V Leiden), a panel of commonly observed variants, or the entire coding nucleotide sequence. The methods used to identify specific variants include Sanger sequencing, microarray technologies, and next-generation sequencing. Other methods include cytogenetic analysis and fluorescence in situ hybridization, which can be used to assess for alterations in chromosome number or structure. The laboratory determines which method to use based on the extent of results they wish to report along with technological considerations and cost. (See 'Extent of DNA analysis' above and 'Methods' above.)

●The purpose of genetic testing is to determine the likelihood that an individual has or will develop a certain condition or disease phenotype, and in some cases to characterize the likely response to treatment. The likelihood of disease depends on technical considerations (accuracy of testing), the existing knowledge base (certainty regarding pathogenicity of the variants identified), and biologic factors (inheritance pattern, penetrance, and expressivity), not all of which are well-characterized. Penetrance and expressivity can depend on the age of the tested individual along with other genetic and environmental factors. (See 'Likelihood of disease' above.)

Approval

Luke Beno, MD
Physician Program Director, Quality Resource Management

Date

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Date