| CLINICAL MEDICAL POLICY | |
|---|---|
| **Policy Name:** | Oncologic Genetic Testing Panels |
| **Policy Number:** | MP-074-MD-PA |
| **Responsible Department(s):** | Medical Management |
| **Provider Notice/Issue Date:** | 10/01/2024; 02/01/2024; 10/01/2023; 10/01/2022; 12/17/2021; 10/19/2020; 11/18/2019; 12/15/2018 |
| **Effective Date:** | 11/01/2024; 03/01/2024; 11/01/2023; 11/01/2022; 01/17/2022; 11/16/2020; 11/18/2019; 12/15/2018 |
| **Next Annual Review:** | 08/2025 |
| **Revision Date:** | 08/21/2024; 11/15/2023; 08/16/2023; 08/17/2022; 08/18/2021; 08/19/2020; 08/21/2019; 07/17/2019 |
| **Products:** | Highmark Wholecare℠ Medicaid |
| **Application:** | All participating hospitals and providers |
| **Page Number(s):** | 1 of 35 |

**Policy History**

| Date | Activity |
|---|---|
| 11/01/2024 | Provider Effective date |
| 09/09/2024 | PARP Approval |
| 08/21/2024 | QI/UM Committee review |
| 08/21/2024 | Annual Review: No changes to clinical criteria. Updated 'Summary of Literature' and 'Reference Sources' sections. Updated the code Description for the following Procedure Codes: 81401, 81402, 81403, 81404, 81405, 81406, & 81407. |
| 03/01/2024 | Provider Effective date |
| 01/22/2024 | PARP Approval |
| 11/15/2023 | QI/UM Committee review |
| 11/15/2023 | Urgent Review: Added TAG determination information for Hereditary breast cancer-related disorders analysis panels; CPT codes 81432 & 81433 changed to an Option #3 and will require a Program Exception. Updated 'Governing Bodies Approval' and 'Reference Sources' sections. |
| 11/01/2023 | Provider Effective date |
| 09/22/2023 | PARP Approval |
| 08/16/2023 | QI/UM Committee review |
| 08/16/2023 | Annual Review: No changes to clinical criteria. Added the PA DHS TAG determination information for CPT code 81479, which is listed as an Option #3 (*Approved with [or denied due to] Limited/Minimal Evidence of Effectiveness - Will require Program Exception*) Updated 'Summary of Literature' and 'Reference Sources' sections. |

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| | Updated the Description for the following CPT codes: 81445, 81450, and 81455, per AMA guidance. |
| 11/01/2022 | Provider Effective date |
| 09/13/2022 | PARP Approval |
| 08/17/2022 | QI/UM Committee review |
| 08/17/2022 | Annual Review: No changes to clinical criteria. Removed the word 'covered' from Procedures section, replaced with 'medically necessary'. Updated Summary of Literature and Reference Sources sections. Updated the Description for the following CPT codes: 0023U & 81342. The following deleted CPT codes were removed: 0057U & 0006M. Removed the following unspecified ICD-10 codes: D49.89, D49.9, C79.60, C57.20, C57.10, C50.929, C50.919, C50.819, C50.619, C50.529, C50.519, C50.419, C50.319, C50.219, C50.119, & C50.019. |
| 01/17/2022 | Provider effective date |
| 11/30/2021 | PARP Approval |
| 08/18/2021 | QI/UM Committee review |
| 08/18/2021 | Annual Review: No changes to clinical criteria or coding. Updated Summary of Literature and Reference Sources sections. |
| 09/19/2018 | QI/UM Committee review |
| 09/14/2017 | Initial policy developed |

## Disclaimer

Highmark Wholecare℠ medical policy is intended to serve only as a general reference resource regarding coverage for the services described. This policy does not constitute medical advice and is not intended to govern or otherwise influence medical decisions.

## Policy Statement

Highmark Wholecare℠ may provide coverage under the medical-surgical benefits of the Company's Medicaid products for medically necessary oncologic Genetic Testing Panels.

This policy is designed to address medical necessity guidelines that are appropriate for the majority of individuals with a particular disease, illness or condition. Each person's unique clinical circumstances warrant individual consideration, based upon review of applicable medical records.

(Current applicable Pennsylvania HealthChoices Agreement Section V. Program Requirements, B. Prior Authorization of Services, 1. General Prior Authorization Requirements.)

## Definitions

**Prior Authorization Review Panel (PARP)** – a panel of representatives from within the PA Department of Human Services who have been assigned organizational responsibility for the review, approval and denial of all PH-MCO Prior Authorization policies and procedures.

**Genetic Testing Panel** – a laboratory test that evaluates multiple genes simultaneously compared to sequential testing of individual genes. There are multiple uses of the testing results including but not limited to: to establish a clinical diagnosis, confirmation of a specific clinical diagnosis, the diagnosis of a hereditary disorder, to determine when a known cancer diagnosis is part of a hereditary cancer syndrome or to assist in the identification of a cancer type/subtype and in the selection of the most appropriate treatment of a cancer type/subtype.

**Germline Mutation** – an alteration in the DNA that is transmissible from parent to offspring.

**Panel Testing Technology** – a genetic testing method that examines multiple genes or mutations simultaneously. Testing methods can include next-generation sequencing and chromosomal microarray.

**Next Generation Sequencing (NGS)** – Non-Sanger-based high-throughput DNA sequencing technologies. Millions or billions of DNA strands can be sequenced in parallel, yielding substantially more throughput and minimizing the need for the fragment-cloning methods that are often used in Sanger sequencing of genomes.

**Variant of Unknown/Uncertain Significance (VUS)** – an allele, or variant form of a gene that has been identified via genetic testing. The significance of the finding is not established and the connection to a human disease has not been identified.

**Clinical Utility** – how likely the testing is to significantly improve patient outcomes that reflect the balance between health-related benefits and/or harms that can ensue from using the information made available from the testing.

**Genetic Counseling** – a service that is provided by a Clinical Geneticist, Certified Genetic Counselor, or other approved medical provider who is independent and not employed by any clinical or genetic laboratory, who bears no conflict of interest with the entity performing the testing.

**1st, 2nd, and 3rd Degree Relatives** - Blood relatives on the same side of the family (maternal or paternal).

- 1st-degree relatives are parents, siblings, and children.
- 2nd-degree relatives are grandparents, aunts, uncles, nieces, nephews, grandchildren, and half-siblings.
- 3rd-degree relatives are great-grandparents, great-aunts, great-uncles, great-grandchildren, and first cousins.

## Procedures

This policy applies only if there is no separate Highmark Wholecare℠ medical policy that addresses the criteria for a specific oncologic genetic test. Genetic testing panels are defined as any assay that simultaneously tests for more than one gene associated with a condition. The testing may focus on sequence variants and/or deletions/duplications of those genes. Oncologic genetic testing panels include panels for hereditary conditions, genetic conditions, or cancer panels.

The ordering provider must validate the test's clinical utility by considering the following:

- Will the panel testing offer significant advantages compared to sequential analysis of individual genes, i.e., a genetic testing panel that address the disorder in question, rather than the disorder in question plus other disorders?
- How will the panel testing results be used in patient care decision making?
- Will the ancillary findings lead to further testing or management changes?
- Is there reliable evidence in the peer-reviewed scientific literature that health outcomes will be improved as a result of treatment decisions based on molecular genetic testing findings?

1. Oncologic genetic testing is considered medically necessary when ALL of the following guidelines are met:
    A. All genetic testing panels must be performed in a Clinical Laboratory Improvement Amendment (CLIA) licensed lab; AND
    B. Genetic testing panels are to be ordered by or recommended by a physician specialist such as a hematologist, oncologist, a physician with expertise in the treatment of the targeted disease or geneticist; AND
    C. The ordering provider must not be employed or contracted by a commercial genetic testing laboratory; AND
    D. A recommendation for the genetic testing is confirmed by either:
        - An American Board of Medical Genetics or American Board of Genetic counselor; OR
        - An independent Board Certified or Board eligible medical geneticist; AND
    E. All components of the specific genetic testing panel must demonstrate positive clinical utility for the medical condition being evaluated and offers substantial advantages in efficiency compared to sequential analysis of individual genes; AND
    F. Genetic testing panels should be considered when clinical evaluation suggests a particular diagnosis, the disorder cannot be identified through clinical evaluation and/or other testing, and not when the diagnosis is unclear or uncertain; AND
    G. The provider has had a discussion with the patient regarding the scope of the genetic testing panel being ordered and the impact of variants of unknown significance.

2. ALL of the following documentation requirements apply:
    A. A brief explanation of how the results of genetic testing are necessary to guide treatment decisions relevant to the patient's personal medical history for positive patient outcome (i.e., whether to perform surgery, determine chemotherapy treatment, choose between medication options, etc.); AND
    B. Medical records relevant to the testing being performed are to include:
        1) A thorough history and physical examination by the referring physician; AND
        2) Any previously performed conventional testing and outcomes; AND
        3) A three generation pedigree analysis result; AND
        4) Any conservative treatments that have been provided, if applicable; AND

C. The following information is required for a genetic or molecular diagnostic test:
    1) The specific name of the test/panel; AND
    2) Name of the performing CLIA-accredited laboratory; AND
    3) The exact gene(s) and/or mutations being tested
    4) Estimated cost/quote sheet for the genetic testing panel ordered; AND
D. An informed consent must be signed by the patient prior to testing. The consent must include a statement that the patient agrees to post-test counseling and the consent must be made available upon request.

3. When oncologic genetic tests are considered not medically necessary
    - Broad-based genetic testing panels are considered not medically necessary when individual components are sufficient for treatment/management of the patient. Testing for multiple genes or multiple conditions, in cases where a tiered approach/method is clinically available, will be considered medically necessary only for the number of genes or tests that are reasonable to obtain necessary therapeutic decision making and NOT the entire panel.
    - More than one multi-gene panel is considered not medically necessary at the same time.
    - Genetic testing of children to predict adult onset of diseases is considered not medically necessary.
    - Genetic tests for inherited disease need only be conducted once per lifetime of the patient.
    - If a genetic testing panel was previously performed for medically necessary indications and a larger panel is developed and requested, only the testing for previously untested genes will be considered medically necessary.

4. Post-payment Audit Statement
    The medical record must include documentation that reflects the medical necessity criteria and is subject to audit by Highmark Wholecare℠ at any time pursuant to the terms of your provider agreement.

5. Place of Service
    The proper place of service for oncologic genetic testing panels is outpatient.

6. Genetic Counseling
    Pre- and post-test genetic counseling is required to be performed by an independent genetic provider (not employed by a genetic testing lab) prior to genetic testing for mutations. This service is necessary in order to inform patient being tested about the benefits and limitations of specific genetic tests. Genetic testing for mutations requires documentation of medical necessity from at least one of the following providers who has previously evaluated the patient, and intends to see the patient after genetic testing has been performed:
        - Board Eligible or Board Certified Genetic Counselor
        - Advanced Genetics Nurse
        - Genetic Clinical Nurse
        - Advanced Practice Nurse in Genetics
        - Board Eligible or Board Certified Clinical Geneticist
        - A physician of appropriate expertise or other obstetrical provider specializing in the care for the indication(s) for genetic testing

7. Related Policies
    - MP-010-MD-PA Testing for Genetic Disease
    - MP-011-MD-PA BRCA 1 & 2 Genetic Mutation Testing and Related Genetic Counseling
    - MP-013-MD-PA Whole Exome and Whole Genome Sequencing for Diagnosis of Genetic Disorders
    - MP-017-MD-PA BCR-ABL1 Testing in Chronic Myelogenous Leukemia and Acute Lymphoblastic Leukemia
    - MP-059-MD-PA Genetic Testing for Colorectal Cancer Susceptibility
    - MP-061-MD-PA Molecular Tumor Markers for Non-Small Cell Lung Cancer
    - MP-065-MD-PA Molecular Markers for Fine Needle Aspirates of Thyroid Nodules
    - MP-100-MD-PA Gene Expression and Biomarker Prostate Cancer Testing
    - MP-120-MD-PA Tumor Markers

## Governing Bodies Approval

Three federal agencies play a role in the regulation of genetic tests: the Centers for Medicare and Medicaid Services (CMS), the U.S. Food & Drug Administration (FDA) and the Federal Trade Commission (FTC). CMS is responsible for regulating all clinical laboratories performing genetic testing, ensuring their compliance with the Clinical Laboratory Improvement Amendments of 1988. The FDA has the broadest authority in terms of regulating the safety and effectiveness of genetic tests as medical devices under the Federal Food, Drug, and Cosmetic Act. Compared to the FDA and CMS, the FTC's regulatory authority is rather narrow, and is limited to how tests are advertised. The Commission has the authority to regulate advertising that delivers health-related information to consumers to ensure that it is not false or misleading.

Genetic testing panels are typically laboratory derived tests that are not subject to the U.S. FDA approval. Due to the large numbers of mutations contained in expanded panels, it is not possible to determine clinical validity for the panels as a whole.
CLIA
The genetic testing panels are offered as laboratory-developed tests under Clinical Laboratory Improvement Amendments (CLIA) licensed laboratories. Clinical laboratories may develop and validate tests in-house and market them as a laboratory service; laboratories offering such tests as a clinical service must meet general regulatory standards of CLIA and must be licensed by CLIA for high complexity testing.

**Note**: This policy may not apply to multi-gene panel testing for indications that are addressed in another Highmark Wholecare test-specific medical policy. Please check to see if there is a more specific policy.

The Pennsylvania Department of Human Services Technology Assessment Group (TAG) workgroup meets quarterly to discuss issues revolving around new technologies and technologies or services that were previously considered to be a program exception. During this meeting, decisions are made as to whether or not certain technologies will be covered and how they will be covered. TAG's decisions are as follow:

- Option #1: Approved - Will be added to the Fee Schedule
- Option #2: Approved as Medically Effective - Will require Program Exception
- Option #3: Approved with (or denied due to) Limited/Minimal Evidence of Effectiveness - Will require Program Exception
- Option #4: Denied - Experimental/Investigational

As of August 2021, the TAG workgroup assigned CPT code 81479 an Option # 3. As of August 2023, the TAG workgroup assigned CPT codes 81432 & 81433 an Option # 3.

**Program Exception**
CPT code 81432, 81433, and 81479 requires a Program Exception. The ordering physician must provide a supporting statement indicating why the requested therapy or device is medically necessary, and the alternative options have been or are likely to be ineffective, adversely affect patient compliance, or cause an adverse reaction.

**Note**: Codes 81432 and 81433 are currently listed under specific medical policy "MP-011-MD-PA *BRCA 1 & 2 Genetic Mutation Testing and Related Genetic Counseling*".

## Summary of Literature

The role of genetic testing in the medical profession has continued to grow rapidly. With the completion of the Human Genome Project (HGP) and continued advances in the field of genomics, the use of genetic testing has become widespread. The World Health Organization (WHO) has published criteria to be met for any genetic test to be considered valuable: the disease is an important health problem, the risk in mutation carriers is high in the general population (not just in a high-risk group), mutations for the disease can be accurately identified, and effective interventions exist.

Genetic testing was first introduced as a clinical tool in the 1960s with chromosomal karyotyping. (Satya-Murti, et al. 2013) More advanced testing includes: Chromosomal microarray analysis or comparative genomic hybridization (array CDG) testing, fluorescence-in-situ-hybridization (FISH), letter-by-letter sequencing of specific genes (Sanger technology) and the new technology where huge panels of genes as large as the entire exome can be sequenced (NexGen technology).

Genetic testing includes the following:

- Single gene-targeted mutation/sequence analysis, deletion/duplication testing
- Deletion/duplication analysis
- Multi-gene panels
- Serial testing of single genes
- Whole Exome Sequencing (WES)-sequencing of exome but interpretation focus on genes related to phenotype
- Whole Genome Sequencing (WGS)-sequences all genetic material

Genetic testing panels have been proposed to aid in the diagnosis of individuals with suspected oncologic indications or mitochondrial disorders and may involve point mutations analysis. Genetic testing uses next-generation sequencing (NGS) technology, massive parallel sequencing, or chromosomal microarray analysis (CMA) testing to perform genetic panels. NGS and CMA are new genetic technologies. The intended use for genetic panels is variable. Existing genetic testing panels are available for the following areas: cancer, cardiovascular disease, neurologic disease, psychiatric conditions and for reproductive testing. In contrast to genomic testing, serial testing of single genes and multi-gene panel testing rely on the clinician developing a hypothesis about which specific gene or set of genes to test (Chinnery, 2014).

Several methods can be used for genetic testing:

- Molecular genetic tests (or gene tests) study single genes or short lengths of DNA to identify variations or mutations that lead to a genetic disorder.
- Cytogenetic tests analyze whole chromosomes or long lengths of DNA to see if there are large abnormalities, such as an extra copy of a chromosome, that cause a genetic condition.
- Biochemical genetic tests study the amount or activity level of proteins; abnormalities in either can indicate changes to the DNA that result in a genetic disorder (Genetic Alliance, 2010).

Advantages of genetic testing panels:

- Offers greater insight, including targeting the coding part of the gene that is relevant to a particular disease. Testing involves reading a DNA sequence from start to finish to see if there are any interruptions or disruptions that stop the gene from making normal proteins.
- Less chance of uncertainties, knowing that a particular mutation is absent can help ease anxiety.
- Opportunity to take action and guide medical care (Joy, 2017).

Disadvantages of genetic testing panels:

- There is no standardization in the makeup of genetic panels. The panel compositions are variable with different set of genes for the same condition. This genetic panel composition is determined by the specific lab that developed the test.
- The gene selection of genetic panels is subject to change based on scientific discovery.
- Because of the large number of mutations contained in expanded panels, it is not possible to determine clinical validity for the panels as a whole.
- The risk for uncertain and incidental findings with the large numbers of genes on the panels.
- Large percentage of VUS

Genetic testing plays a pivotal role in understanding the risk of a patient developing certain diseases while also screening and deciding on a medical treatment plan. There are various types of genetic tests performed for specific reasons:

- **Diagnostic testing** is done when symptoms of a disease are present and may be caused by mutated genes. Testing may be used to confirm or rule-out diseases such as cystic fibrosis or Huntington's disease.
- **Presymptomatic and predictive testing** can reveal if a patient is at risk for developing a genetic condition when there is a family history, for example colorectal cancer.
- **Carrier testing** may provide genetic information if a patient in a specific ethnic group has a family history of a genetic disorder (sickle cell, cystic fibrosis) and would like to be tested before having children. An expanded carrier test can detect genes associated with a wide variety of genetic diseases and mutations and identify if the patient or their partner are carriers for the same conditions.
- **Pharmacogenetic testing** may help determine what medication and dosage will be most favorable for patients' with a particular health condition or disease.
- **Prenatal testing** can detect some types of abnormalities in an unborn baby's genes. These tests screen for markers in blood or by invasive testing such as amniocentesis. Down syndrome and trisomy 18 syndrome are two genetic disorders that may be screened for as part of prenatal genetic testing. Cell-free DNA testing examines the baby's DNA using blood tests performed on the mother.
- **Newborn screening** is the most common type of genetic testing in the U.S., with all states requiring that newborns be tested for certain genetic and metabolic abnormalities. This test can reveal if there are disorders such as congenital hypothyroidism, sickle cell, or phenylketonuria (PKU)

- **Targeted gene sequencing** are focused panels that contain a select number of genes or gene regions that are known or are suspected as associates of the disease or phenotype. These panels can be designed with preselected content or custom designed. Next-generation sequencing also evaluates targeted genes of interest, however, multiple genes can be assessed (Mayo Clinic, 2022).

Multi-gene panel tests have the advantage of testing for many potential gene mutations simultaneously at a potentially lower cost than traditional testing. Because multiple numbers of genes in a panel are being investigated, there is also a higher likelihood of diagnosing a VUS. Clinical recommendations like enhanced cancer screening or risk-reducing surgery should be reserved for those patients who are found to have a deleterious mutation or who have a strong family cancer history, because most VUS are ultimately found not to be associated with health problems and medical decisions should not be based on the presence of a VUS. The decision to pursue gene-by-gene testing versus panel testing is a complex one that benefits from discussion with a genetics professional. In addition to germline testing, patients may also benefit from having the tumor itself tested for mutations. Mutations that occur in the tumor are called somatic mutations and cannot be passed through the family (unlike germline mutations). Knowledge of either germline or somatic mutations may help direct treatment (SGO, 2016).

Oncologists may choose panel testing around hereditary cancer from the following approaches:

- **Syndrome-specific gene panel:** This approach would include BRCA1 and BRCA2 for hereditary breast and ovarian cancer or testing of mismatch repair genes for Lynch syndrome (MLH1, MSH2, MSH6, PMS2 and EPCAM).
- **High-penetrance gene panel:** These types of panels include genes with high penetrance and known to be involved in a specific cancer. One example is high risk breast cancer panel testing for mutations in *BRCA1, BRCA2, TP53, PTEN, CDH1* and *STK11.*
- **Cancer-specific gene panel:** This panel would include testing of between 17-23 genes. Tested genes include both highly and moderately penetrant genes related to a specific cancer type such as breast cancer or ovarian cancer.
- **Comprehensive cancer risk panel:** Several companies offer these panels, which include testing of between 25 and 61 highly and moderately penetrant genes known to be associated with risk for many different cancers.

Although multigene tests are gaining in popularity for patients who may be predisposed to hereditary breast and/or ovarian cancer, concerns remain because most of the genes tested are considered low- or moderate-risk genes for which management guidelines either do not exist or have only been recently introduced. Current research indicates that multigene panel testing can provide information in a small subset of patients, however additional studies are necessary to address if clinical interventions are of any benefit to positive less well studied mutations. In addition, there is paucity in the information in addressing the large numbers of variants of uncertain significance generated by multigene panels.

Multi-gene panels are commonly used when:

- When the family mutation is unknown in a symptomatic patient; OR
- When there are multiple candidate genes and no single gene is significantly more likely than the others; OR
- When personal and family history are suggestive of more than one hereditary syndrome; OR
- When the suspected diagnosis cannot be unequivocally diagnosed otherwise.

Targeted Gene Sequencing
Targeted gene sequencing are focused panels that contain a select number of genes or gene regions that are known or are suspected as associates of the disease or phenotype. These panels can be designed with preselected content or custom designed. Next-generation sequencing also evaluated targeted genes of interest however, multiple genes can be assessed.

Shashi and colleagues (2014) noted that it remains unclear which patients should be analyzed with a specific genetic test and in which stage during the evaluation. In a study to assess the diagnostic yield of the traditional comprehensive clinical evaluation and targeted genetic testing, the authors retrospectively analyzed a cohort of 500 unselected consecutive patients. These patients had received traditional genetic diagnostic evaluations at a tertiary facility. The diagnosis rate, number of visits to diagnosis, genetic tests and the cost of testing was calculate. The authors concluded that nearly half of the patients tested with traditional approaches were diagnosed in the initial visit. It is logical that the remaining patients that were undiagnosed, may benefit from next generation sequencing. The use of next-generation sequencing utilized after the first clinical visit could result in a higher rate of genetic diagnosis and at a considerable cost savings.

The American Academy of Neurology (AAN) has issued recommendations for genetic test that is 'guided by the clinical phenotype, inheritance patter (if available), and electrodiagnostic features. As example the AAN does not support complete panels of all known Charcot-Marie Tooth genes, but rather recommends a stepwise evaluation method to improve genetic screening efficiency.

Multiple research documents report that a thorough clinical evaluation is a major step in choosing the best genetic test for the patient condition.

Neither National Comprehensive Cancer Network (NCCN) nor the American College of Medical Genetics and Genomics (ACMG) have general guidelines on oncologic genetic testing, but rather give guidance on testing for specific types of cancer.

## Coding Requirements

Procedure Codes

| CPT Code | Description |
|---|---|
| 0023U | Oncology (acute myelogenous leukemia), DNA, genotyping of internal tandem duplication, p.D835, p.I836, using mononuclear cells, reported as detection or non-detection of FLT3 mutation and indication for or against the use of midostaurin |
| 0048U | Oncology (solid organ neoplasia), DNA, targeted sequencing of protein-coding exons of 468 cancer-associated genes, including interrogation for somatic mutations and microsatellite instability, matched with normal specimens, utilizing formalin-fixed paraffin-embedded tumor tissue, report of clinically significant mutation(s) |
| 0050U | Targeted genomic sequence analysis panel, acute myelogenous leukemia, DNA analysis, 194 genes, interrogation for sequence variants, copy number variants or rearrangements |
| 0007M | Oncology (gastrointestinal neuroendocrine tumors), real-time PCR expression analysis of 51 genes, utilizing whole peripheral blood, algorithm reported as a nomogram of tumor disease index |
| 81272 | KIT (v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog) (eg, gastrointestinal stromal tumor [GIST], acute myeloid leukemia, melanoma), gene analysis, targeted sequence analysis (eg, exons 8, 11, 13, 17, 18) |

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| 81273 | KIT (v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog) (eg, mastocytosis), gene analysis, D816 variant(s) |
| 81340 | TRB@ (T cell antigen receptor, beta) (e.g., leukemia and lymphoma), gene rearrangement analysis to detect abnormal clonal population(s); using amplification methodology (e.g., polymerase chain reaction) |
| 81342 | TRG@ (T cell antigen receptor, gamma) (eg, leukemia and lymphoma), gene rearrangement analysis, evaluation to detect abnormal clonal population(s) |
| 81401 | Molecular pathology procedure, Level 2 (eg, 2-10 SNPs, 1 methylated variant, or 1 somatic variant [typically using nonsequencing target variant analysis], or detection of a dynamic mutation disorder/triplet repeat) |
| 81402 | Molecular pathology procedure, Level 3 (eg, >10 SNPs, 2-10 methylated variants, or 2-10 somatic variants [typically using non-sequencing target variant analysis], immunoglobulin and T-cell receptor gene rearrangements, duplication/deletion variants of 1 exon, loss of heterozygosity [LOH], uniparental disomy [UPD]) |
| 81403 | Molecular pathology procedure, Level 4 (eg, analysis of single exon by DNA sequence analysis, analysis of >10 amplicons using multiplex PCR in 2 or more independent reactions, mutation scanning or duplication/deletion variants of 2-5 exons) |
| 81404 | Molecular pathology procedure, Level 5 (eg, analysis of 2-5 exons by DNA sequence analysis, mutation scanning or duplication/deletion variants of 6-10 exons, or characterization of a dynamic mutation disorder/triplet repeat by Southern blot analysis) |
| 81405 | Molecular pathology procedure, Level 6 (eg, analysis of 6-10 exons by DNA sequence analysis, mutation scanning or duplication/deletion variants of 11-25 exons, regionally targeted cytogenomic array analysis) |
| 81406 | Molecular pathology procedure, Level 7 (eg, analysis of 11-25 exons by DNA sequence analysis, mutation scanning or duplication/deletion variants of 26-50 exons) |
| 81407 | Molecular pathology procedure, Level 8 (eg, analysis of 26-50 exons by DNA sequence analysis, mutation scanning or duplication/deletion variants of >50 exons, sequence analysis of multiple genes on one platform) |
| 81432* | Hereditary breast cancer-related disorders (e.g., hereditary breast cancer, hereditary ovarian cancer, hereditary endometrial cancer); genomic sequence analysis panel, must include sequencing of at least 14 genes, including ATM, BRCA1, BRCA2, BRIP1, CDH1, MLH1, MSH2, MSH6, NBN, PALB2, PTEN, RAD51C, STK11, and TP53 |
| 81433* | Hereditary breast cancer-related disorders (e.g., hereditary breast cancer, hereditary ovarian cancer, hereditary endometrial cancer); duplication/deletion analysis panel, must include analyses for BRCA1, BRCA2, MLH1, MSH2, and STK11 |
| 81437 | Hereditary neuroendocrine tumor disorders (e.g., medullary thyroid carcinoma, parathyroid carcinoma, malignant pheochromocytoma or paraganglioma); genomic sequence analysis panel, must include sequencing of at least 6 genes, including MAX, SDHB, SDHC, SDHD, TMEM127, and VHL |
| 81438 | Hereditary neuroendocrine tumor disorders (e.g., medullary thyroid carcinoma, parathyroid carcinoma, malignant pheochromocytoma or paraganglioma); duplication/deletion analysis panel, must include analyses for SDHB, SDHC, SDHD, and VHL |
| 81445 | Targeted genomic sequence analysis panel, solid organ neoplasm, 5-50 genes (eg, ALK, BRAF, CDKN2A, EGFR, ERBB2, KIT, KRAS, MET, NRAS, PDGFRA, PDGFRB, PGR, PIK3CA, PTEN, RET), interrogation for sequence variants and copy number variants or rearrangements, if performed; DNA analysis or combined DNA and RNA analysis |
| 81450 | Targeted genomic sequence analysis panel, hematolymphoid neoplasm or disorder, 5-50 genes (eg, BRAF, CEBPA, DNMT3A, EZH2, FLT3, IDH1, IDH2, JAK2, KIT, KRAS, MLL, NOTCH1, NPM1, NRAS), interrogation for sequence variants, and copy number variants or rearrangements, or isoform |

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| | expression or mRNA expression levels, if performed; DNA analysis or combined DNA and RNA analysis |
| 81455 | Targeted genomic sequence analysis panel, solid organ or hematolymphoid neoplasm or disorder, 51 or greater genes (eg, ALK, BRAF, CDKN2A, CEBPA, DNMT3A, EGFR, ERBB2, EZH2, FLT3, IDH1, IDH2, JAK2, KIT, KRAS, MET, MLL, NOTCH1, NPM1, NRAS, PDGFRA, PDGFRB, PGR, PIK3CA, PTEN, RET), interrogation for sequence variants and copy number variants or rearrangements, or isoform expression or mRNA expression levels, if performed; DNA analysis or combined DNA and RNA analysis |
| 81479* | Unlisted molecular pathology procedure |
| 81504 | Oncology (tissue of origin), microarray gene expression profiling of > 2000 genes, utilizing formalin-fixed paraffin-embedded tissue, algorithm reported as tissue similarity scores |
| 81520 | Oncology (breast), mRNA gene expression profiling by hybrid capture of 58 genes (50 content and 8 housekeeping), utilizing formalin-fixed paraffin-embedded tissue, algorithm reported as a recurrence risk score |
| 81521 | Oncology (breast), mRNA, microarray gene expression profiling of 70 content genes and 465 housekeeping genes, utilizing fresh frozen or formalin-fixed paraffin-embedded tissue, algorithm reported as index related to risk of distant metastasis |
| 81540 | Oncology (tumor of unknown origin), mRNA, gene expression profiling by real-time RT-PCR of 92 genes (87 content and 5 housekeeping) to classify tumor into main cancer type and subtype, utilizing formalin-fixed paraffin-embedded tissue, algorithm reported as a probability of a predicted main cancer type and subtype |
| 88299 | Unlisted cytogenetic study |
| S3854 | Gene expression profiling panel for use in the management of breast cancer treatment |

*TAG Determination; see '*Governing Bodies Approval*' section above.

**Note**: If a procedure code other than those listed above is requested, the request must be sent to a Medical Director for individual consideration. The code may also be possibly listed on another separate Highmark Wholecare medical policy.

Diagnosis Codes

*This list is not all-inclusive*

| ICD-10 Code | Description |
|---|---|
| C7A.010 | Malignant carcinoid tumor of the duodenum |
| C7A.011 | Malignant carcinoid tumor of the jejunum |
| C7A.012 | Malignant carcinoid tumor of the ileum |
| C7A.019 | Malignant carcinoid tumor of the small intestine, unspecified portion |
| C7A.020 | Malignant carcinoid tumor of the appendix |
| C7A.021 | Malignant carcinoid tumor of the cecum |
| C7A.022 | Malignant carcinoid tumor of the ascending colon |
| C7A.023 | Malignant carcinoid tumor of the transverse colon |
| C7A.024 | Malignant carcinoid tumor of the descending colon |
| C7A.025 | Malignant carcinoid tumor of the sigmoid colon |
| C7A.026 | Malignant carcinoid tumor of the rectum |
| C7A.029 | Malignant carcinoid tumor of the large intestine, unspecified portion |
| C7A.090 | Malignant carcinoid tumor of the bronchus and lung |
| C7A.091 | Malignant carcinoid tumor of the thymus |

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| C7A.092 | Malignant carcinoid tumor of the stomach |
| C7A.093 | Malignant carcinoid tumor of the kidney |
| C7A.094 | Malignant carcinoid tumor of the foregut, unspecified |
| C7A.095 | Malignant carcinoid tumor of the midgut, unspecified |
| C7A.096 | Malignant carcinoid tumor of the hindgut, unspecified |
| C7A.098 | Malignant carcinoid tumor of other sites |
| C7A.1 | Malignant poorly differentiated neuroendocrine tumors |
| C7A.8 | Other malignant neuroendocrine tumors |
| C7B.01 | Secondary carcinoid tumors of distant lymph nodes |
| C7B.02 | Secondary carcinoid tumors of liver |
| C7B.03 | Secondary carcinoid tumors of bone |
| C7B.04 | Secondary carcinoid tumors of peritoneum |
| C7B.09 | Secondary carcinoid tumors of other sites |
| C7B.1 | Secondary Merkel cell carcinoma |
| C7B.8 | Other secondary neuroendocrine tumors |
| C10.1 | Malignant neoplasm of anterior surface of epiglottis |
| C10.2 | Malignant neoplasm of lateral wall of oropharynx |
| C10.3 | Malignant neoplasm of posterior wall of oropharynx |
| C10.4 | Malignant neoplasm of branchial cleft |
| C10.8 | Malignant neoplasm of overlapping sites of oropharynx |
| C10.9 | Malignant neoplasm of oropharynx, unspecified |
| C11.0 | Malignant neoplasm of superior wall of nasopharynx |
| C11.1 | Malignant neoplasm of posterior wall of nasopharynx |
| C11.2 | Malignant neoplasm of lateral wall of nasopharynx |
| C11.3 | Malignant neoplasm of anterior wall of nasopharynx |
| C11.8 | Malignant neoplasm of overlapping sites of nasopharynx |
| C11.9 | Malignant neoplasm of nasopharynx, unspecified |
| C12 | Malignant neoplasm of pyriform sinus |
| C13.0 | Malignant neoplasm of postcricoid region |
| C13.1 | Malignant neoplasm of aryepiglottis fold, hypopharyngeal aspect |
| C13.2 | Malignant neoplasm of posterior wall of hypopharynx |
| C13.8 | Malignant neoplasm of overlapping sites of hypopharynx |
| C13.9 | Malignant neoplasm of hypopharynx, unspecified |
| C14.0 | Malignant neoplasm of pharynx, unspecified |
| C14.2 | Malignant neoplasm of Waldeyer's ring |
| C14.8 | Malignant neoplasm of overlapping sites of lip, oral cavity and pharynx |
| C15.3 | Malignant neoplasm of upper third of esophagus |
| C15.4 | Malignant neoplasm of middle third esophagus |
| C15.5 | Malignant neoplasm of lower third of esophagus |
| C15.8 | Malignant neoplasm of overlapping sites of esophagus |
| C15.9 | Malignant neoplasm of esophagus, unspecified |
| C17.0 | Malignant neoplasm of duodenum |

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| C17.1 | Malignant neoplasm of jejunum |
| C17.2 | Malignant neoplasm of ileum |
| C17.3 | Meckel's diverticulum, malignant |
| C17.8 | Malignant neoplasm of overlapping sites of small intestine |
| C17.9 | Malignant neoplasm of small intestine, unspecified |
| C18.0 | Malignant neoplasm of cecum |
| C18.1 | Malignant neoplasm of appendix |
| C18.2 | Malignant neoplasm of ascending colon |
| C18.3 | Malignant neoplasm of hepatic flexure |
| C18.4 | Malignant neoplasm of transverse colon |
| C18.5 | Malignant neoplasm of splenic flexure |
| C18.6 | Malignant neoplasm of descending colon |
| C18.7 | Malignant neoplasm of sigmoid colon |
| C18.8 | Malignant neoplasm of overlapping sites of colon |
| C18.9 | Malignant neoplasm of colon, unspecified |
| C19 | Malignant neoplasm of rectosigmoid junction |
| C20 | Malignant neoplasm of rectum |
| C21.0 | Malignant neoplasm of anus, unspecified |
| C21.1 | Malignant neoplasm of anal canal |
| C21.2 | Malignant neoplasm of cloacogenic zone |
| C21.8 | Malignant neoplasm of overlapping sites of rectum, anus and anal canal |
| C22.0 | Liver cell carcinoma |
| C22.2 | Hepatoblastoma |
| C22.3 | Liver cell carcinoma |
| C22.4 | Other sarcomas of liver |
| C22.7 | Other specified carcinoma of liver |
| C22.8 | Malignant neoplasm of liver, primary, unspecified as to type |
| C22.9 | Malignant neoplasm of liver, not specified as primary or secondary |
| C23 | Malignant neoplasm of gallbladder |
| C24.0 | Malignant neoplasm of extrahepatic bile duct |
| C24.1 | Malignant neoplasm of ampulla of Vater |
| C24.8 | Malignant neoplasm of overlapping sites of biliary tract |
| C24.9 | Malignant neoplasm of biliary tract, unspecified |
| C25.0 | Malignant neoplasm of head of pancreas |
| C25.1 | Malignant neoplasm of body of pancreas |
| C25.2 | Malignant neoplasm of tail of pancreas |
| C25.3 | Malignant neoplasm of pancreatic duct |
| C25.4 | Malignant neoplasm of endocrine pancreas |
| C25.7 | Malignant neoplasm of other parts of pancreas |
| C25.8 | Malignant neoplasm of overlapping sites of pancreas |
| C25.9 | Malignant neoplasm of pancreas, unspecified |
| C33 | Malignant neoplasm of trachea |

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| C34.00 | Malignant neoplasm of unspecified main bronchus |
| C34.01 | Malignant neoplasm of right main bronchus |
| C34.02 | Malignant neoplasm of left main bronchus |
| C34.10 | Malignant neoplasm of upper lobe, unspecified bronchus or lung |
| C34.11 | Malignant neoplasm of upper lobe, right main bronchus or lung |
| C34.12 | Malignant neoplasm of upper lobe, left bronchus or lung |
| C34.2 | Malignant neoplasm of middle lobe, bronchus or lung |
| C34.30 | Malignant neoplasm of lower lobe, unspecified bronchus or lung |
| C34.31 | Malignant neoplasm of lower lobe, right bronchus or lung |
| C34.32 | Malignant neoplasm of lower lobe, left bronchus or lung |
| C34.80 | Malignant neoplasm of overlapping sites of unspecified bronchus and lung |
| C34.81 | Malignant neoplasm of overlapping sites of right bronchus and lung |
| C34.82 | Malignant neoplasm of overlapping sites of left bronchus and lung |
| C34.90 | Malignant neoplasm of unspecified part of unspecified bronchus or lung |
| C34.91 | Malignant neoplasm of unspecified part of right bronchus or lung |
| C34.92 | Malignant neoplasm of unspecified part of left bronchus or lung |
| C38.4 | Malignant neoplasm of pleura |
| C43.0 | Malignant melanoma of lip |
| C43.10 | Malignant neoplasm of unspecified eyelid, including canthus |
| C43.111 | Malignant melanoma of right upper eyelid, including canthus |
| C43.112 | Malignant melanoma of right lower eyelid, including canthus |
| C43.121 | Malignant melanoma of left upper eyelid, including canthus |
| C43.122 | Malignant melanoma of left lower eyelid, including canthus |
| C43.20 | Malignant neoplasm of unspecified ear and external auricular canal |
| C43.21 | Malignant neoplasm of right ear and external auricular canal |
| C43.22 | Malignant neoplasm of left ear and external auricular canal |
| C43.30 | Malignant neoplasm of unspecified part of face |
| C43.31 | Malignant neoplasm of nose |
| C43.39 | Malignant neoplasm of other parts of the face |
| C43.4 | Malignant neoplasm of scalp and neck |
| C43.51 | Malignant neoplasm of anal skin |
| C43.52 | Malignant neoplasm of skin of breast |
| C43.59 | Malignant neoplasm of other part of trunk |
| C43.60 | Malignant melanoma of unspecified upper limb, including shoulder |
| C43.61 | Malignant melanoma of right upper limb, including shoulder |
| C43.62 | Malignant melanoma of left upper limb, including shoulder |
| C43.70 | Malignant melanoma of unspecified lower limb, including hip |
| C43.71 | Malignant melanoma of right lower limb, including hip |
| C43.72 | Malignant melanoma of left lower limb, including hip |
| C43.8 | Malignant melanoma of overlapping sites of skin |
| C43.9 | Malignant melanoma of skin, unspecified |
| C4A.111 | Merkel cell carcinoma of right upper eyelid, including canthus |

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| C4A.112 | Merkel cell carcinoma of right lower eyelid, including canthus |
| C4A.121 | Merkel cell carcinoma of left upper eyelid, including canthus |
| C4A.122 | Merkel cell carcinoma of left lower eyelid, including canthus |
| C44.111 | Basal cell carcinoma of skin of unspecified eyelid, including canthus |
| C44.1121 | Basal cell carcinoma of skin of right upper eyelid, including canthus |
| C44.1122 | Basal cell carcinoma of skin of right lower eyelid, including canthus |
| C44.1191 | Basal cell carcinoma of skin of left upper eyelid, including canthus |
| C44.1192 | Basal cell carcinoma of skin of left lower eyelid, including canthus |
| C44.121 | Squamous cell carcinoma of skin of unspecified eyelid, including canthus |
| C44.1221 | Squamous cell carcinoma of skin of right upper eyelid, including canthus |
| C44.1222 | Squamous cell carcinoma of skin of right lower eyelid, including canthus |
| C44.1291 | Squamous cell carcinoma of skin of left upper eyelid, including canthus |
| C44.1292 | Squamous cell carcinoma of skin of left lower eyelid, including canthus |
| C44.131 | Sebaceous cell carcinoma of skin of unspecified eyelid, including canthus |
| C44.1321 | Sebaceous cell carcinoma of skin of right upper eyelid, including canthus |
| C44.1322 | Sebaceous cell carcinoma of skin of right lower eyelid, including canthus |
| C44.1391 | Sebaceous cell carcinoma of skin of left upper eyelid, including canthus |
| C44.1392 | Sebaceous cell carcinoma of skin of left lower eyelid, including canthus |
| C44.191 | Other specified malignant neoplasm of skin of unspecified eyelid, including canthus |
| C44.1921 | Other specified malignant neoplasm of skin of right upper eyelid, including canthus |
| C44.1922 | Other specified malignant neoplasm of skin of right lower eyelid, including canthus |
| C44.1991 | Other specified malignant neoplasm of skin of left upper eyelid, including canthus |
| C44.1992 | Other specified malignant neoplasm of skin of left lower eyelid, including canthus |
| C45.0 | Mesothelioma of pleura |
| C45.1 | Mesothelioma of peritoneum |
| C47.0 | Malignant neoplasm of peripheral nerves of head, face, and neck |
| C47.9 | Malignant neoplasm of peripheral nerves and autonomic nervous system, unspecified |
| C48.0 | Malignant neoplasm of retroperitoneum |
| C48.1 | Malignant neoplasm of specified parts of peritoneum |
| C48.2 | Malignant neoplasm of peritoneum, unspecified |
| C48.8 | Malignant neoplasm of overlapping sites of retroperitoneum and peritoneum |
| C49.0 | Malignant neoplasm of connective and soft tissue of head, face, and neck |
| C49.9 | Malignant neoplasm of connective and soft tissue, unspecified |
| C49.A0 | Gastrointestinal stromal tumor, unspecified site |
| C49.A1 | Gastrointestinal stromal tumor of esophagus |
| C49.A2 | Gastrointestinal stromal tumor of stomach |
| C49.A3 | Gastrointestinal stromal tumor of small intestine |
| C49.A4 | Gastrointestinal stromal tumor of large intestine |
| C49.A5 | Gastrointestinal stromal tumor of rectum |
| C49.A9 | Gastrointestinal stromal tumor of other sites |
| C50.011 | Malignant neoplasm of nipple and areola, right female breast |
| C50.012 | Malignant neoplasm of nipple and areola, left female breast |

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| C50.111 | Malignant neoplasm of central portion of right female breast |
| C50.112 | Malignant neoplasm of central portion of left female breast |
| C50.121 | Malignant neoplasm of central portion of right male breast |
| C50.122 | Malignant neoplasm of central portion of left male breast |
| C50.211 | Malignant neoplasm of upper-inner quadrant of right female breast |
| C50.212 | Malignant neoplasm of upper-inner quadrant of left female breast |
| C50.311 | Malignant neoplasm of lower-inner quadrant of right female breast |
| C50.312 | Malignant neoplasm of lower-inner quadrant of left female breast |
| C50.411 | Malignant neoplasm of upper-outer quadrant of right female breast |
| C50.412 | Malignant neoplasm of upper-outer quadrant of left female breast |
| C50.511 | Malignant neoplasm of lower-outer quadrant of right female breast |
| C50.512 | Malignant neoplasm of lower-outer quadrant of left female breast |
| C50.521 | Malignant neoplasm of lower-outer quadrant of right male breast |
| C50.522 | Malignant neoplasm of lower-outer quadrant of left male breast |
| C50.611 | Malignant neoplasm of axillary tail of right female breast |
| C50.612 | Malignant neoplasm of axillary tail of left female breast |
| C50.811 | Malignant neoplasm of overlapping sites of right female breast |
| C50.812 | Malignant neoplasm of overlapping sites of left female breast |
| C50.911 | Malignant neoplasm of unspecified site of right female breast |
| C50.912 | Malignant neoplasm of unspecified site of left female breast |
| C50.921 | Malignant neoplasm of unspecified site of right male breast |
| C50.922 | Malignant neoplasm of unspecified site of left male breast |
| C54.0 | Malignant neoplasm of isthmus uteri |
| C54.1 | Malignant neoplasm of endometrium |
| C54.2 | Malignant neoplasm of myometrium |
| C54.3 | Malignant neoplasm of fundus uteri |
| C54.8 | Malignant neoplasm of overlapping sites of corpus uteri |
| C54.9 | Malignant neoplasm of corpus uteri, unspecified |
| C55 | Malignant neoplasm of uterus, part unspecified |
| C56.1 | Malignant neoplasm of right ovary |
| C56.2 | Malignant neoplasm of left ovary |
| C57.01 | Malignant neoplasm of right fallopian tube |
| C57.02 | Malignant neoplasm of left fallopian tube |
| C57.11 | Malignant neoplasm of right broad ligament |
| C57.12 | Malignant neoplasm of left broad ligament |
| C57.21 | Malignant neoplasm of right round ligament |
| C57.22 | Malignant neoplasm of left round ligament |
| C57.3 | Malignant neoplasm of parametrium |
| C57.4 | Malignant neoplasm of uterine adnexa, unspecified |
| C57.7 | Malignant neoplasm of other specified female genital organs |
| C57.8 | Malignant neoplasm of overlapping sites of female genital organs |
| C57.9 | Malignant neoplasm of female genital organ, unspecified |

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| C60.1 | Malignant neoplasm of glans penis |
| C61 | Malignant neoplasm of prostate |
| C64.1 | Malignant neoplasm of right kidney, except renal pelvis |
| C64.2 | Malignant neoplasm of left kidney, expect renal pelvis |
| C64.9 | Malignant neoplasm of unspecified kidney, except renal pelvis |
| C65.1 | Malignant neoplasm of unspecified kidney, except renal pelvis |
| C65.2 | Malignant neoplasm of left renal pelvis |
| C65.9 | Malignant neoplasm of unspecified renal pelvis |
| C66.1 | Malignant neoplasm of right ureter |
| C66.2 | Malignant neoplasm of left ureter |
| C66.9 | Malignant neoplasm of unspecified ureter |
| C67.0 | Malignant neoplasm of trigone of bladder |
| C67.1 | Malignant neoplasm of dome of bladder |
| C67.2 | Malignant neoplasm of lateral wall of bladder |
| C67.3 | Malignant neoplasm of anterior wall of bladder |
| C67.4 | Malignant neoplasm of posterior wall of bladder |
| C67.5 | Malignant neoplasm of bladder neck |
| C67.6 | Malignant neoplasm of ureteric orifice |
| C67.6 | Malignant neoplasm of ureteric orifice |
| C67.7 | Malignant neoplasm of urachus |
| C67.8 | Malignant neoplasm of overlapping sites of bladder |
| C67.9 | Malignant neoplasm of bladder, unspecified |
| C68.0 | Malignant neoplasm of urethra |
| C68.1 | Malignant neoplasm of paraurethral glands |
| C68.8 | Malignant neoplasm of overlapping sites of urinary organs |
| C68.9 | Malignant neoplasm of urinary organ, unspecified |
| C69.01 | Malignant neoplasm of right conjunctiva |
| C69.02 | Malignant neoplasm of left conjunctiva |
| C69.11 | Malignant neoplasm of right cornea |
| C69.12 | Malignant neoplasm of left cornea |
| C69.21 | Malignant neoplasm of right retina |
| C69.22 | Malignant neoplasm of left retina |
| C69.31 | Malignant neoplasm of right choroid |
| C69.32 | Malignant neoplasm of left choroid |
| C69.41 | Malignant neoplasm of right ciliary body |
| C69.42 | Malignant neoplasm of left ciliary body |
| C69.51 | Malignant neoplasm of right lacrimal gland and duct |
| C69.52 | Malignant neoplasm of left lacrimal gland and duct |
| C69.61 | Malignant neoplasm of right orbit |
| C69.62 | Malignant neoplasm of left orbit |
| C69.81 | Malignant neoplasm of overlapping sites of right eye and adnexa |
| C69.82 | Malignant neoplasm of overlapping sites of left eye and adnexa |

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| C71.0 | Malignant neoplasm of cerebrum, except lobes and ventricles |
| C71.1 | Malignant neoplasm of frontal lobe |
| C71.2 | Malignant neoplasm of temporal lobe |
| C71.3 | Malignant neoplasm of parietal lobe |
| C71.4 | Malignant neoplasm of occipital lobe |
| C71.5 | Malignant neoplasm of cerebral ventricle |
| C71.6 | Malignant neoplasm of cerebellum |
| C71.7 | Malignant neoplasm of brain stem |
| C71.8 | Malignant neoplasm of overlapping sites of brain |
| C71.9 | Malignant neoplasm of brain, unspecified |
| C73 | Malignant neoplasm of thyroid gland |
| C74.10 | Malignant neoplasm of medulla of unspecified adrenal gland |
| C74.11 | Malignant neoplasm of medulla of right adrenal gland |
| C74.12 | Malignant neoplasm of medulla of left adrenal gland |
| C75.0 | Malignant neoplasm of parathyroid gland |
| C76.0 | Malignant neoplasm of head, face and neck |
| C77.0 | Secondary and unspecified malignant neoplasm of lymph nodes of head, face and neck |
| C77.1 | Secondary and unspecified malignant neoplasm of intrathoracic lymph nodes |
| C77.2 | Secondary and unspecified malignant neoplasm of intra-abdominal lymph nodes |
| C77.3 | Secondary and unspecified malignant neoplasm of axilla and upper limb lymph nodes |
| C77.4 | Secondary and unspecified malignant neoplasm of inguinal and lower limb lymph nodes |
| C77.5 | Secondary and unspecified malignant neoplasm of intrapelvic lymph nodes |
| C77.8 | Secondary and unspecified malignant neoplasm of lymph nodes of multiple regions |
| C77.9 | Secondary and unspecified malignant neoplasm of lymph node, unspecified |
| C78.00 | Secondary malignant neoplasm of unspecified lung |
| C78.01 | Secondary malignant neoplasm of right lung |
| C78.02 | Secondary malignant neoplasm left lung |
| C78.1 | Secondary malignant neoplasm of mediastinum |
| C78.2 | Secondary malignant neoplasm of pleura |
| C78.30 | Secondary malignant neoplasm of unspecified respiratory organ |
| C78.39 | Secondary malignant neoplasm of other respiratory organs |
| C78.4 | Secondary malignant neoplasm of small intestine |
| C78.5 | Secondary malignant neoplasm of large intestine and rectum |
| C78.6 | Secondary malignant neoplasm of retroperitoneum and peritoneum |
| C78.7 | Secondary malignant neoplasm of liver and intrahepatic bile duct |
| C78.80 | Secondary malignant neoplasm of unspecified digestive organ |
| C78.89 | Secondary malignant neoplasm of other digestive organs |
| C79.01 | Secondary malignant neoplasm of right kidney and renal pelvis |
| C79.02 | Secondary malignant neoplasm of left kidney and renal pelvis |
| C79.2 | Secondary malignant neoplasm of skin |
| C79.31 | Secondary malignant neoplasm of brain |
| C79.49 | Secondary malignant neoplasm of other parts of nervous system |

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| C79.61 | Secondary malignant neoplasm of right ovary |
| C79.62 | Secondary malignant neoplasm of left ovary |
| C79.81 | Secondary malignant neoplasm of breast |
| C79.89 | Secondary malignant neoplasm of other specified sites |
| C80.0 | Disseminated malignant neoplasm, unspecified |
| C80.1 | Malignant (primary) neoplasm, unspecified |
| C81.00 | Nodular lymphocyte predominate Hodgkin lymphoma, unspecified site |
| C81.01 | Nodular lymphocyte predominate Hodgkin lymphoma, lymph nodes of head, face and neck |
| C81.02 | Nodular lymphocyte predominate Hodgkin lymphoma, intrathoracic lymph nodes |
| C81.03 | Nodular lymphocyte predominate Hodgkin lymphoma, intra-abdominal lymph nodes |
| C81.04 | Nodular lymphocyte predominate Hodgkin lymphoma, lymph nodes of axilla and upper limb |
| C81.05 | Nodular lymphocyte predominate Hodgkin lymphoma, lymph nodes of inguinal region and lower limb |
| C81.06 | Nodular lymphocyte predominate Hodgkin lymphoma, intrapelvic lymph nodes |
| C81.07 | Nodular lymphocyte predominate Hodgkin lymphoma, spleen |
| C81.08 | Nodular lymphocyte predominate Hodgkin lymphoma, lymph nodes of multiple sites |
| C81.09 | Nodular lymphocyte predominate Hodgkin lymphoma, extranodal and solid organ sites |
| C81.10 | Nodular sclerosis classical Hodgkin lymphoma, unspecified site |
| C81.11 | Nodular sclerosis classical Hodgkin lymphoma, lymph nodes of head, face and neck |
| C81.12 | Nodular sclerosis classical Hodgkin lymphoma, intrathoracic lymph nodes |
| C81.13 | Nodular sclerosis classical Hodgkin lymphoma, intra-abdominal lymph nodes |
| C81.14 | Nodular sclerosis classical Hodgkin lymphoma, lymph nodes of axilla and upper limb |
| C81.15 | Nodular sclerosis classical Hodgkin lymphoma, lymph nodes of inguinal region and lower limb |
| C81.16 | Nodular sclerosis classical Hodgkin lymphoma, intrapelvic lymph nodes |
| C81.17 | Nodular sclerosis classical Hodgkin lymphoma, spleen |
| C81.18 | Nodular sclerosis classical Hodgkin lymphoma, lymph nodes of multiple sites |
| C81.19 | Nodular sclerosis classical Hodgkin lymphoma, extranodal and solid organ sites |
| C81.20 | Mixed cellularity classical Hodgkin lymphoma, unspecified site |
| C81.21 | Mixed cellularity classical Hodgkin lymphoma, lymph nodes of head, face and neck |
| C81.22 | Mixed cellularity classical Hodgkin lymphoma, intrathoracic lymph nodes |
| C81.23 | Mixed cellularity classical Hodgkin lymphoma, intra-abdominal lymph nodes |
| C81.24 | Mixed cellularity classical Hodgkin lymphoma, lymph nodes of axilla and upper limb |
| C81.25 | Mixed cellularity classical Hodgkin lymphoma, lymph nodes of inguinal region and lower limb |
| C81.26 | Mixed cellularity classical Hodgkin lymphoma, intrapelvic lymph nodes |
| C81.27 | Mixed cellularity classical Hodgkin lymphoma, spleen |
| C81.28 | Mixed cellularity classical Hodgkin lymphoma, lymph nodes of multiple sites |
| C81.29 | Mixed cellularity classical Hodgkin lymphoma, extranodal and solid organs |
| C81.30 | Lymphocyte depleted classical Hodgkin lymphoma, unspecified site |
| C81.31 | Lymphocyte depleted classical Hodgkin lymphoma, lymph nodes of head, face and neck |
| C81.32 | Lymphocyte depleted classical Hodgkin lymphoma, intrathoracic lymph nodes |
| C81.33 | Lymphocyte depleted classical Hodgkin lymphoma, intra-abdominal lymph nodes |
| C81.34 | Lymphocyte depleted classical Hodgkin lymphoma, lymph nodes of axilla and upper limb |

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| C81.35 | Lymphocyte depleted classical Hodgkin lymphoma, lymph nodes of inguinal region and lower limb |
| C81.36 | Lymphocyte depleted classical Hodgkin lymphoma, intrapelvic lymph nodes |
| C81.37 | Lymphocyte depleted classical Hodgkin lymphoma, spleen |
| C81.38 | Lymphocyte depleted classical Hodgkin lymphoma, lymph nodes of multiple sites |
| C81.39 | Lymphocyte depleted classical Hodgkin lymphoma, extranodal and solid organ sites |
| C81.40 | Lymphocyte-rich classical Hodgkin lymphoma, unspecified site |
| C81.41 | Lymphocyte-rich classical Hodgkin lymphoma, lymph nodes of head, face and neck |
| C81.42 | Lymphocyte-rich classical Hodgkin lymphoma, intrathoracic lymph nodes |
| C81.43 | Lymphocyte-rich classical Hodgkin lymphoma, intra-abdominal lymph nodes |
| C81.44 | Lymphocyte-rich classical Hodgkin lymphoma, lymph nodes of axilla and upper limb |
| C81.45 | Lymphocyte-rich classical Hodgkin lymphoma, lymph nodes of inguinal region and lower limb |
| C81.46 | Lymphocyte-rich classical Hodgkin lymphoma, intrapelvic lymph nodes |
| C81.47 | Lymphocyte-rich classical Hodgkin lymphoma, spleen |
| C81.48 | Lymphocyte-rich classical Hodgkin lymphoma, lymph nodes of multiple sites |
| C81.49 | Lymphocyte-rich classical Hodgkin lymphoma, extranodal and solid organ sites |
| C81.70 | Other classical Hodgkin lymphoma, unspecified site |
| C81.71 | Other classical Hodgkin lymphoma, lymph nodes of head, face and neck |
| C81.72 | Other classical Hodgkin lymphoma, intrathoracic lymph nodes |
| C81.73 | Other classical Hodgkin lymphoma, intra-abdominal lymph nodes |
| C81.74 | Other classical Hodgkin lymphoma, lymph nodes of axilla and upper limb |
| C81.75 | Other classical Hodgkin lymphoma, lymph nodes of inguinal region and lower limb |
| C81.76 | Other classical Hodgkin lymphoma, intrapelvic lymph nodes |
| C81.77 | Other classical Hodgkin lymphoma, spleen |
| C81.78 | Other classical Hodgkin lymphoma, lymph nodes of multiple sites |
| C81.79 | Other classical Hodgkin lymphoma, extranodal and solid organ sites |
| C81.90 | Hodgkin lymphoma, unspecified, unspecified site |
| C81.91 | Hodgkin lymphoma, unspecified, lymph nodes of head, face, and neck |
| C81.92 | Hodgkin lymphoma, unspecified, intrathoracic lymph nodes |
| C81.93 | Hodgkin lymphoma, unspecified, intra-abdominal lymph nodes |
| C81.94 | Hodgkin lymphoma, unspecified, lymph nodes of axilla and upper limb |
| C81.95 | Hodgkin lymphoma, unspecified, lymph nodes of inguinal region and lower limb |
| C81.96 | Hodgkin lymphoma, unspecified, intrapelvic lymph nodes |
| C81.97 | Hodgkin lymphoma, unspecified, spleen |
| C81.98 | Hodgkin lymphoma, unspecified, lymph nodes of multiple sites |
| C81.99 | Hodgkin lymphoma, unspecified, extranodal and solid organ sites |
| C82.00 | Follicular lymphoma grade I, unspecified site |
| C82.01 | Follicular lymphoma grade I, lymph nodes of head, face, and neck |
| C82.02 | Follicular lymphoma grade I, intrathoracic lymph nodes |
| C82.03 | Follicular lymphoma grade I, intra-abdominal lymph nodes |
| C82.04 | Follicular lymphoma grade I, lymph nodes of axilla and upper limb |
| C82.05 | Follicular lymphoma grade I, lymph nodes of inguinal region and lower limb |
| C82.06 | Follicular lymphoma grade I, intrapelvic lymph nodes |

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| C82.07 | Follicular lymphoma grade I, spleen |
| C82.08 | Follicular lymphoma grade I, lymph nodes of multiple sites |
| C82.09 | Follicular lymphoma grade I, extranodal and solid organ sites |
| C82.10 | Follicular lymphoma grade II, unspecified site |
| C82.11 | Follicular lymphoma grade II, lymph nodes of head, face, and neck |
| C82.12 | Follicular lymphoma grade II, intrathoracic lymph nodes |
| C82.13 | Follicular lymphoma grade II, intra-abdominal lymph nodes |
| C82.14 | Follicular lymphoma grade II, lymph nodes of axilla and upper limb |
| C82.15 | Follicular lymphoma grade II, lymph nodes of inguinal region and lower limb |
| C82.16 | Follicular lymphoma grade II, intrapelvic lymph nodes |
| C82.17 | Follicular lymphoma grade II, spleen |
| C82.18 | Follicular lymphoma grade II, lymph nodes of multiple sites |
| C82.19 | Follicular lymphoma grade II, extranodal and solid organ sites |
| C82.20 | Follicular lymphoma grade III, unspecified, unspecified site |
| C82.21 | Follicular lymphoma grade III, unspecified, lymph nodes of head, face, and neck |
| C82.22 | Follicular lymphoma grade III, unspecified, intrathoracic lymph nodes |
| C82.23 | Follicular lymphoma grade III, unspecified, intra-abdominal lymph nodes |
| C82.24 | Follicular lymphoma grade III, unspecified, lymph nodes of axilla and upper limb |
| C82.25 | Follicular lymphoma grade III, unspecified, lymph nodes of inguinal region and lower limb |
| C82.26 | Follicular lymphoma grade III, unspecified, intrapelvic lymph nodes |
| C82.27 | Follicular lymphoma grade III, unspecified, spleen |
| C82.28 | Follicular lymphoma grade III, unspecified, lymph nodes of multiple sites |
| C82.29 | Follicular lymphoma grade III, unspecified, extranodal and solid organ sites |
| C82.30 | Follicular lymphoma grade IIIa, unspecified site |
| C82.00 | Follicular lymphoma grade I, unspecified site |
| C82.01 | Follicular lymphoma grade I, lymph nodes of head, face, and neck |
| C82.02 | Follicular lymphoma grade I, intrathoracic lymph nodes |
| C82.03 | Follicular lymphoma grade I, intra-abdominal lymph nodes |
| C82.04 | Follicular lymphoma grade I, lymph nodes of axilla and upper limb |
| C82.05 | Follicular lymphoma grade I, lymph nodes of inguinal region and lower limb |
| C82.06 | Follicular lymphoma grade I, intrapelvic lymph nodes |
| C82.07 | Follicular lymphoma grade I, spleen |
| C82.08 | Follicular lymphoma grade I, lymph nodes of multiple sites |
| C82.09 | Follicular lymphoma grade I, extranodal and solid organ sites |
| C82.10 | Follicular lymphoma grade II, unspecified site |
| C82.31 | Follicular lymphoma grade IIIa, lymph nodes of head, face, and neck |
| C82.32 | Follicular lymphoma grade IIIa, intrathoracic lymph nodes |
| C82.33 | Follicular lymphoma grade IIIa, intra-abdominal lymph nodes |
| C82.34 | Follicular lymphoma grade IIIa, lymph nodes of axilla and upper limb |
| C82.35 | Follicular lymphoma grade IIIa, lymph nodes of inguinal region and lower limb |
| C82.36 | Follicular lymphoma grade IIIa, intrapelvic lymph nodes |
| C82.37 | Follicular lymphoma grade IIIa, spleen |

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| C82.38 | Follicular lymphoma grade IIIa, lymph nodes of multiple sites |
| C82.39 | Follicular lymphoma grade IIIa, extranodal and solid organ sites |
| C82.40 | Follicular lymphoma grade IIIb, unspecified site |
| C82.41 | Follicular lymphoma grade IIIb, lymph nodes of head, face, and neck |
| C82.42 | Follicular lymphoma grade IIIb, intrathoracic lymph nodes |
| C82.43 | Follicular lymphoma grade IIIb, intra-abdominal lymph nodes |
| C82.44 | Follicular lymphoma grade IIIb, lymph nodes of axilla and upper limb |
| C82.45 | Follicular lymphoma grade IIIb, lymph nodes of inguinal region and lower limb |
| C82.46 | Follicular lymphoma grade IIIb, intrapelvic lymph nodes |
| C82.47 | Follicular lymphoma grade IIIb, spleen |
| C82.48 | Follicular lymphoma grade IIIb, lymph nodes of multiple sites |
| C82.49 | Follicular lymphoma grade IIIb, extranodal and solid organ sites |
| C82.50 | Diffuse follicle center lymphoma, unspecified site |
| C82.51 | Diffuse follicle center lymphoma, lymph nodes of head, face, and neck |
| C82.52 | Diffuse follicle center lymphoma, intrathoracic lymph nodes |
| C82.53 | Diffuse follicle center lymphoma, intra-abdominal lymph nodes |
| C82.54 | Diffuse follicle center lymphoma, lymph nodes of axilla and upper limb |
| C82.55 | Diffuse follicle center lymphoma, lymph nodes of inguinal region and lower limb |
| C82.56 | Diffuse follicle center lymphoma, intrapelvic lymph nodes |
| C82.57 | Diffuse follicle center lymphoma, spleen |
| C82.58 | Diffuse follicle center lymphoma, lymph nodes of multiple sites |
| C82.59 | Diffuse follicle center lymphoma, extranodal and solid organ sites |
| C82.60 | Cutaneous follicle center lymphoma, unspecified site |
| C82.61 | Cutaneous follicle center lymphoma, lymph nodes of head, face, and neck |
| C82.62 | Cutaneous follicle center lymphoma, intrathoracic lymph nodes |
| C82.63 | Cutaneous follicle center lymphoma, intra-abdominal lymph nodes |
| C82.64 | Cutaneous follicle center lymphoma, lymph nodes of axilla and upper limb |
| C82.65 | Cutaneous follicle center lymphoma, lymph nodes of inguinal region and lower limb |
| C82.66 | Cutaneous follicle center lymphoma, intrapelvic lymph nodes |
| C82.67 | Cutaneous follicle center lymphoma, spleen |
| C82.68 | Cutaneous follicle center lymphoma, lymph nodes of multiple sites |
| C82.69 | Cutaneous follicle center lymphoma, extranodal and solid organ sites |
| C82.80 | Other types of follicular lymphoma, unspecified site |
| C82.81 | Other types of follicular lymphoma, lymph nodes of head, face, and neck |
| C82.82 | Other types of follicular lymphoma, intrathoracic lymph nodes |
| C82.83 | Other types of follicular lymphoma, intra-abdominal lymph nodes |
| C82.84 | Other types of follicular lymphoma, lymph nodes of axilla and upper limb |
| C82.85 | Other types of follicular lymphoma, lymph nodes of inguinal region and lower limb |
| C82.86 | Other types of follicular lymphoma, intrapelvic lymph nodes |
| C82.87 | Other types of follicular lymphoma, spleen |
| C82.88 | Other types of follicular lymphoma, lymph nodes of multiple sites |
| C82.89 | Other types of follicular lymphoma, extranodal and solid organ sites |

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| C82.90 | Follicular lymphoma, unspecified, unspecified site |
| C82.91 | Follicular lymphoma, unspecified, lymph nodes of head, face, and neck |
| C82.92 | Follicular lymphoma, unspecified, intrathoracic lymph nodes |
| C82.93 | Follicular lymphoma, unspecified, intra-abdominal lymph nodes |
| C82.94 | Follicular lymphoma, unspecified, lymph nodes of axilla and upper limb |
| C82.95 | Follicular lymphoma, unspecified, lymph nodes of inguinal region and lower limb |
| C82.96 | Follicular lymphoma, unspecified, intrapelvic lymph nodes |
| C82.97 | Follicular lymphoma, unspecified, spleen |
| C83.00 | Small cell B-cell lymphoma, unspecified site |
| C83.01 | Small cell B-cell lymphoma, lymph nodes of head, face, and neck |
| C83.02 | Small cell B-cell lymphoma, intrathoracic lymph nodes |
| C83.03 | Small cell B-cell lymphoma, intra-abdominal lymph nodes |
| C83.04 | Small cell B-cell lymphoma, lymph nodes of axilla and upper limb |
| C83.05 | Small cell B-cell lymphoma, lymph nodes of inguinal region and lower limb |
| C83.06 | Small cell B-cell lymphoma, intrapelvic lymph nodes |
| C83.07 | Small cell B-cell lymphoma, spleen |
| C83.08 | Small cell B-cell lymphoma, lymph nodes of multiple sites |
| C83.09 | Small cell B-cell lymphoma, extranodal and solid organ sites |
| C83.10 | Mantle cell lymphoma, unspecified site |
| C83.11 | Mantle cell lymphoma, lymph nodes of head, face, and neck |
| C83.12 | Mantle cell lymphoma, intrathoracic lymph nodes |
| C83.13 | Mantle cell lymphoma, intra-abdominal lymph nodes |
| C83.14 | Mantle cell lymphoma, lymph nodes of axilla and upper limb |
| C83.15 | Mantle cell lymphoma, lymph nodes of inguinal region and lower limb |
| C83.16 | Mantle cell lymphoma, intrapelvic lymph nodes |
| C83.17 | Mantle cell lymphoma, spleen |
| C83.18 | Mantle cell lymphoma, lymph nodes of multiple sites |
| C83.19 | Mantle cell lymphoma, extranodal and solid organ sites |
| C83.30 | Diffuse large B-cell lymphoma, unspecified site |
| C83.31 | Diffuse large B-cell lymphoma, lymph nodes of head, face, and neck |
| C83.32 | Diffuse large B-cell lymphoma, intrathoracic lymph nodes |
| C83.33 | Diffuse large B-cell lymphoma, intra-abdominal lymph nodes |
| C83.34 | Diffuse large B-cell lymphoma, lymph nodes of axilla and upper limb |
| C83.35 | Diffuse large B-cell lymphoma, lymph nodes of inguinal region and lower limb |
| C83.36 | Diffuse large B-cell lymphoma, intrapelvic lymph nodes |
| C83.37 | Diffuse large B-cell lymphoma, spleen |
| C83.38 | Diffuse large B-cell lymphoma, lymph nodes of multiple sites |
| C83.39 | Diffuse large B-cell lymphoma, extranodal and solid organ sites |
| C83.50 | Lymphoblastic (diffuse) lymphoma, unspecified site |
| C83.51 | Lymphoblastic (diffuse) lymphoma, lymph nodes of head, face, and neck |
| C83.52 | Lymphoblastic (diffuse) lymphoma, intrathoracic lymph nodes |
| C83.53 | Lymphoblastic (diffuse) lymphoma, intra-abdominal lymph nodes |

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| C83.54 | Lymphoblastic (diffuse) lymphoma, lymph nodes of axilla and upper limb |
| C83.55 | Lymphoblastic (diffuse) lymphoma, lymph nodes of inguinal region and lower limb |
| C83.56 | Lymphoblastic (diffuse) lymphoma, intrapelvic lymph nodes |
| C83.57 | Lymphoblastic (diffuse) lymphoma, spleen |
| C83.58 | Lymphoblastic (diffuse) lymphoma, lymph nodes of multiple sites |
| C83.59 | Lymphoblastic (diffuse) lymphoma, extranodal and solid organ sites |
| C83.70 | Burkitt lymphoma, unspecified site |
| C83.71 | Burkitt lymphoma, lymph nodes of head, face, and neck |
| C83.72 | Burkitt lymphoma, intrathoracic lymph nodes |
| C83.73 | Burkitt lymphoma, intra-abdominal lymph nodes |
| C83.74 | Burkitt lymphoma, lymph nodes of axilla and upper limb |
| C83.75 | Burkitt lymphoma, lymph nodes of inguinal region and lower limb |
| C83.76 | Burkitt lymphoma, intrapelvic lymph nodes |
| C83.77 | Burkitt lymphoma, spleen |
| C83.78 | Burkitt lymphoma, lymph nodes of multiple sites |
| C83.79 | Burkitt lymphoma, extranodal and solid organ sites |
| C83.80 | Other non-follicular lymphoma, unspecified site |
| C83.81 | Other non-follicular lymphoma, lymph nodes of head, face, and neck |
| C83.82 | Other non-follicular lymphoma, intrathoracic lymph nodes |
| C83.83 | Other non-follicular lymphoma, intra-abdominal lymph nodes |
| C83.84 | Other non-follicular lymphoma, lymph nodes of axilla and upper limb |
| C83.85 | Other non-follicular lymphoma, lymph nodes of inguinal region and lower limb |
| C83. | Other non-follicular lymphoma, intrapelvic lymph nodes |
| C83.87 | Other non-follicular lymphoma, spleen |
| C83.88 | Other non-follicular lymphoma, lymph nodes of multiple sites |
| C83. | Other non-follicular lymphoma, extranodal and solid organ sites |
| C83.90 | Non-follicular (diffuse) lymphoma, unspecified, unspecified site |
| C83.91 | Non-follicular (diffuse) lymphoma, unspecified, lymph nodes of head, face, and neck |
| C83.92 | Non-follicular (diffuse) lymphoma, unspecified, intrathoracic lymph nodes |
| C83.93 | Non-follicular (diffuse) lymphoma, unspecified, intra-abdominal lymph nodes |
| C83.94 | Non-follicular (diffuse) lymphoma, unspecified, lymph nodes of axilla and upper limb |
| C83.95 | Non-follicular (diffuse) lymphoma, unspecified, lymph nodes of inguinal region and lower limb |
| C83.96 | Non-follicular (diffuse) lymphoma, unspecified, intrapelvic lymph nodes |
| C83.97 | Non-follicular (diffuse) lymphoma, unspecified, spleen |
| C83.98 | Non-follicular (diffuse) lymphoma, unspecified, lymph nodes of multiple sites |
| C83.99 | Non-follicular (diffuse) lymphoma, unspecified, extranodal and solid organ sites |
| C84.A7 | Cutaneous T-cell lymphoma, unspecified, spleen |
| C84.Z7 | Other mature T/NK-cell lymphomas, spleen |
| C84.97 | Mature T/NK-cell lymphomas, unspecified, spleen |
| C85.10 | Unspecified B-cell lymphoma, unspecified site |
| C85.11 | Unspecified B-cell lymphoma, lymph nodes of head, face, and neck |
| C85.12 | Unspecified B-cell lymphoma, intrathoracic lymph nodes |

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| C85.13 | Unspecified B-cell lymphoma, intra-abdominal lymph nodes |
| C85.14 | Unspecified B-cell lymphoma, lymph nodes of axilla and upper limb |
| C85.15 | Unspecified B-cell lymphoma, lymph nodes of inguinal region and lower limb |
| C85.16 | Unspecified B-cell lymphoma, intrapelvic lymph nodes |
| C85.17 | Unspecified B-cell lymphoma, spleen |
| C85.18 | Unspecified B-cell lymphoma, lymph nodes of multiple sites |
| C85.19 | Unspecified B-cell lymphoma, extranodal and solid organ sites |
| C85.20 | Mediastinal (thymic) large B-cell lymphoma, unspecified site |
| C85.21 | Mediastinal (thymic) large B-cell lymphoma, lymph nodes of head, face, and neck |
| C85.22 | Mediastinal (thymic) large B-cell lymphoma, intrathoracic lymph nodes |
| C85.23 | Mediastinal (thymic) large B-cell lymphoma, intra-abdominal lymph nodes |
| C85.24 | Mediastinal (thymic) large B-cell lymphoma, lymph nodes of axilla and upper limb |
| C85.25 | Mediastinal (thymic) large B-cell lymphoma, lymph nodes of inguinal region and lower limb |
| C85.26 | Mediastinal (thymic) large B-cell lymphoma, intrapelvic lymph nodes |
| C85.27 | Mediastinal (thymic) large B-cell lymphoma, spleen |
| C85.28 | Mediastinal (thymic) large B-cell lymphoma, lymph nodes of multiple sites |
| C85.29 | Mediastinal (thymic) large B-cell lymphoma, extranodal and solid organ sites |
| C85.80 | Other specified types of non-Hodgkin lymphoma, unspecified site |
| C85.81 | Other specified types of non-Hodgkin lymphoma, lymph nodes of head, face, and neck |
| C85.82 | Other specified types of non-Hodgkin lymphoma, intrathoracic lymph nodes |
| C85.83 | Other specified types of non-Hodgkin lymphoma, intra-abdominal lymph nodes |
| C85.84 | Other specified types of non-Hodgkin lymphoma, lymph nodes of axilla and upper limb |
| C85.85 | Other specified types of non-Hodgkin lymphoma, lymph nodes of inguinal region and lower limb |
| C85.86 | Other specified types of non-Hodgkin lymphoma, intrapelvic lymph nodes |
| C85.87 | Other specified types of non-Hodgkin lymphoma, spleen |
| C85.88 | Other specified types of non-Hodgkin lymphoma, lymph nodes of multiple sites |
| C85.89 | Other specified types of non-Hodgkin lymphoma, extranodal and solid organ sites |
| C85.90 | Non-Hodgkin lymphoma, unspecified, unspecified site |
| C85.91 | Non-Hodgkin lymphoma, unspecified, lymph nodes of head, face, and neck |
| C85.92 | Non-Hodgkin lymphoma, unspecified, intrathoracic lymph nodes |
| C85.93 | Non-Hodgkin lymphoma, unspecified, intra-abdominal lymph nodes |
| C85.94 | Non-Hodgkin lymphoma, unspecified, lymph nodes of axilla and upper limb |
| C85.95 | Non-Hodgkin lymphoma, unspecified, lymph nodes of inguinal region and lower limb |
| C85.96 | Non-Hodgkin lymphoma, unspecified, intrapelvic lymph nodes |
| C85.97 | Non-Hodgkin lymphoma, unspecified, spleen |
| C85.98 | Non-Hodgkin lymphoma, unspecified, lymph nodes of multiple sites |
| C85.99 | Non-Hodgkin lymphoma, unspecified, extranodal and solid organ sites |
| C86.1 | Hepatosplenic T-cell lymphoma |
| C88.0 | Waldenstrom macroglobulinemia |
| C88.8 | Other malignant immunoproliferative diseases |
| C90.00 | Multiple myeloma, not having achieved remission |
| C90.02 | Multiple myeloma, in relapse |

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| C91.00 | Acute lymphoblastic leukemia not having achieved remission |
| C91.01 | Acute lymphoblastic leukemia, in remission |
| C91.02 | Acute lymphoblastic leukemia, in relapse |
| C91.10 | Chronic lymphocytic leukemia of B-cell type not having achieved remission |
| C91.11 | Chronic lymphocytic leukemia of B-cell type in remission |
| C91.12 | Chronic lymphocytic leukemia of B-cell type in relapse |
| C91.40 | Hairy cell leukemia not having achieved remission |
| C91.41 | Hairy cell leukemia, in remission |
| C91.42 | Hairy cell leukemia, in relapse |
| C91.60 | Prolymphocytic leukemia of T-cell type, not having achieved remission |
| C91.61 | Prolymphocytic leukemia of T-cell type, in remission |
| C91.62 | Prolymphocytic leukemia of T-cell type, in relapse |
| C92.00 | Acute myeloblastic leukemia, not having achieved remission |
| C92.01 | Acute myeloblastic leukemia, in remission |
| C92.02 | Acute myeloblastic leukemia, in relapse |
| C92.10 | Chronic myeloid leukemia, BCR/ABL-positive, not having achieved remission |
| C92.11 | Chronic myeloid leukemia, BCR/ABL-positive, in remission |
| C92.12 | Chronic myeloid leukemia, BCR/ABL-positive, in relapse |
| C92.30 | Myeloid sarcoma, not having achieved remission |
| C92.32 | Myeloid sarcoma, in relapse |
| C92.40 | Acute promyelocytic leukemia, not having achieved remission |
| C92.41 | Acute promyelocytic leukemia, in remission |
| C92.42 | Acute promyelocytic leukemia, in relapse |
| C92.50 | Acute myelomonocytic leukemia, not having achieved remission |
| C92.51 | Acute myelomonocytic leukemia, in remission |
| C92.52 | Acute myelomonocytic leukemia, in relapse |
| C92.60 | Acute myeloid leukemia with 11q23-abnormality not having achieved remission |
| C92.61 | Acute myeloid leukemia with 11q23-abnormality in remission |
| C92.62 | Acute myeloid leukemia with 11q23-abnormality in relapse |
| C92.A0 | Acute myeloid leukemia with multilineage dysplasia, not having achieved remission |
| C92.A1 | Acute myeloid leukemia with multilineage dysplasia, in remission |
| C92.A2 | Acute myeloid leukemia with multilineage dysplasia, in relapse |
| C92.Z0 | Other myeloid leukemia not having achieved remission |
| C92.Z2 | Other myeloid leukemia, in relapse |
| C93.10 | Chronic myelomonocytic leukemia not having achieved remission |
| C93.11 | Chronic myelomonocytic leukemia, in remission |
| C93.12 | Chronic myelomonocytic leukemia, in relapse |
| C94.00 | Acute erythroid leukemia, not having achieved remission |
| C94.02 | Acute erythroid leukemia, in relapse |
| C94.40 | Acute panmyelosis with myelofibrosis not having achieved remission |
| C94.41 | Acute panmyelosis with myelofibrosis, in remission |
| C94.42 | Acute panmyelosis with myelofibrosis, in relapse |

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| C94.6 | Myelodysplastic disease, not classified |
| C95.00 | Acute leukemia of unspecified cell type not having achieved remission |
| C95.01 | Acute leukemia of unspecified cell type, in remission |
| C95.02 | Acute leukemia of unspecified cell type, in relapse |
| C95.10 | Chronic leukemia of unspecified cell type not having achieved remission |
| C95.11 | Chronic leukemia of unspecified cell type, in remission |
| C95.12 | Chronic leukemia of unspecified cell type, in relapse |
| C95.90 | Leukemia, unspecified not having achieved remission |
| C95.91 | Leukemia, unspecified, in remission |
| C95.92 | Leukemia, unspecified, in relapse |
| C96.20 | Malignant mast cell neoplasm, unspecified |
| C96.21 | Aggressive systemic mastocytosis |
| C96.22 | Mast cell sarcoma |
| C96.29 | Other malignant mast cell neoplasm |
| D01.5 | Carcinoma in situ of liver, gallbladder and bile ducts |
| D01.7 | Carcinoma in situ of other specified digestive organs |
| D01.9 | Carcinoma in situ of digestive organ, unspecified |
| D03.0 | Melanoma in situ of lip |
| D03.10 | Melanoma in situ of unspecified eyelid, including canthus |
| D03.111 | Melanoma in situ of right upper eyelid, including canthus |
| D03.112 | Melanoma in situ of right lower eyelid, including canthus |
| D03.121 | Melanoma in situ of left upper eyelid, including canthus |
| D03.122 | Melanoma in situ of left lower eyelid, including canthus |
| D03.20 | Melanoma in situ of unspecified ear and external auricular canal |
| D03.21 | Melanoma in situ of right ear and external auricular canal |
| D03.22 | Melanoma in situ of left ear and external auricular canal |
| D03.30 | Melanoma in situ of unspecified part of face |
| D03.39 | Melanoma in situ of parts of face |
| D03.4 | Melanoma in situ of scalp and neck |
| D03.51 | Melanoma in situ of anal skin |
| D03.52 | Melanoma in situ of breast (skin) (soft tissue) |
| D03.59 | Melanoma in situ of other part of trunk |
| D03.60 | Melanoma in situ of unspecified upper limb, including shoulder |
| D03.61 | Melanoma in situ of right upper limb, including shoulder |
| D03.62 | Melanoma in situ of left upper limb, including shoulder |
| D03.70 | Melanoma in situ of unspecified lower limb, including hip |
| D03.71 | Melanoma in situ of right lower limb, including hip |
| D03.72 | Melanoma in situ of left lower limb, including hip |
| D03.8 | Melanoma in situ of other sites |
| D03.9 | Melanoma in situ, unspecified |
| D04.111 | Carcinoma in situ of skin of right upper eyelid, including canthus |
| D04.112 | Carcinoma in situ of skin of right lower eyelid, including canthus |

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| D04.121 | Carcinoma in situ of skin of left upper eyelid, including canthus |
| D04.122 | Carcinoma in situ of skin of left lower eyelid, including canthus |
| D05.00 | Lobular carcinoma in situ of unspecified breast |
| D05.01 | Lobular carcinoma in situ of right breast |
| D05.02 | Lobular carcinoma in situ of left breast |
| D05.10 | Intraductal carcinoma in situ of unspecified breast |
| D05.11 | Intraductal carcinoma in situ of right breast |
| D05.12 | Intraductal carcinoma in situ of left breast |
| D05.80 | Other specified type of carcinoma in situ of unspecified breast |
| D05.81 | Other specified type of carcinoma in situ of right breast |
| D05.82 | Other specified type of carcinoma in situ of left breast |
| D05.90 | Unspecified type of carcinoma in situ of unspecified breast |
| D05.91 | Unspecified type of carcinoma in situ of right breast |
| D05.92 | Unspecified type of carcinoma in situ of left breast |
| D07.30 | Carcinoma in situ of unspecified female genital organs |
| D07.39 | Carcinoma in situ of other female genital organs |
| D22.111 | Melanocytic nevi of right upper eyelid, including canthus |
| D22.112 | Melanocytic nevi of right lower eyelid, including canthus |
| D22.121 | Melanocytic nevi of left upper eyelid, including canthus |
| D22.122 | Melanocytic nevi of left lower eyelid, including canthus |
| D23.111 | Other benign neoplasm of skin of right upper eyelid, including canthus |
| D23.112 | Other benign neoplasm of skin of right lower eyelid, including canthus |
| D23.121 | Other benign neoplasm of skin of left upper eyelid, including canthus |
| D23.122 | Other benign neoplasm of skin of left lower eyelid, including canthus |
| D3A.010 | Benign carcinoid tumor of the duodenum |
| D3A.011 | Benign carcinoid tumor of the jejunum |
| D3A.012 | Benign carcinoid tumor of the ileum |
| D3A.019 | Benign carcinoid tumor of the small intestine, unspecified portion |
| D3A.020 | Benign carcinoid tumor of the appendix |
| D3A.021 | Benign carcinoid tumor of the cecum |
| D3A.022 | Benign carcinoid tumor of the ascending colon |
| D3A.023 | Benign carcinoid tumor of the transverse colon |
| D3A.024 | Benign carcinoid tumor of the descending colon |
| D3A.025 | Benign carcinoid tumor of the sigmoid colon |
| D3A.026 | Benign carcinoid tumor of the rectum |
| D3A.029 | Benign carcinoid tumor of the large intestine, unspecified portion |
| D3A.090 | Benign carcinoid tumor of the bronchus and lung |
| D3A.091 | Benign carcinoid tumor of the thymus |
| D3A.092 | Benign carcinoid tumor of the stomach |
| D3A.093 | Benign carcinoid tumor of the kidney |
| D3A.094 | Benign carcinoid tumor of the foregut, unspecified |
| D3A.095 | Benign carcinoid tumor of the midgut, unspecified |

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| D3A.096 | Benign carcinoid tumor of the hindgut. unspecified |
| D3A.098 | Benign carcinoid tumors of other sights |
| D3A.8 | Other benign neuroendocrine tumors |
| D34 | Benign neoplasm of thyroid gland |
| D44.0 | Neoplasm of uncertain behavior of thyroid gland |
| D44.2 | Neoplasm of uncertain behavior of parathyroid gland |
| D44.9 | Neoplasm of uncertain behavior of unspecified endocrine gland |
| D44.9 | Neoplasm of uncertain behavior of unspecified endocrine gland |
| D45 | Polycythemia vera |
| D46.0 | Refractory anemia without ring sideroblasts, so stated |
| D46.1 | Refractory anemia with ring sideroblasts |
| D46.20 | Refractory anemia with excess of blasts, unspecified |
| D46.21 | Refractory anemia with excess of blasts 1 |
| D46.22 | Refractory anemia with excess of blasts 2 |
| D46.A | Refractory cytopenia with multilineage dysplasia |
| D46.B | Refractory cytopenia with multilineage dysplasia and ring sideroblasts |
| D46.C | Myelodysplastic syndrome with isolated del(5q) chromosomal abnormality |
| D46.4 | Refractory anemia, unspecified |
| D46.Z | Other myelodysplastic syndromes |
| D46.9 | Myelodysplastic syndrome, unspecified |
| D47.01 | Cutaneous mastocytosis |
| D47.02 | Systemic mastocytosis |
| D47.09 | Other mast cell neoplasms of uncertain behavior |
| D47.1 | Chronic myeloproliferative disease |
| D47.3 | Essential (hemorrhagic) thrombocythemia |
| D48.1 | Neoplasm of uncertain behavior of connective and other soft tissue |
| D48.2 | Neoplasm of uncertain behavior of peripheral nerves and autonomic nervous system |
| D49.0 | Neoplasm of unspecified behavior of digestive system |
| D49.1 | Neoplasm of unspecified behavior of respiratory system |
| D49.2 | Neoplasm of unspecified behavior of bone, soft tissue, and skin |
| D49.3 | Neoplasm of unspecified behavior of breast |
| D49.4 | Neoplasm of unspecified behavior of bladder |
| D49.511 | Neoplasm of unspecified behavior of right kidney |
| D49.512 | Neoplasm of unspecified behavior of left kidney |
| D49.59 | Neoplasm of unspecified behavior of other genitourinary organ |
| D49.6 | Neoplasm of unspecified behavior of brain |
| D49.7 | Neoplasm of unspecified behavior of endocrine glands and other parts of nervous system |
| D60.0 | Chronic acquired pure red cell aplasia |
| D60.1 | Transient acquired pure red cell aplasia |
| D60.8 | Other acquire pure red cell aplasias |
| D60.9 | Acquired pure red cell aplasia, unspecified |
| D61.01 | Constitutional (pure) red blood cell aplasia |

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| D61.09 | Other constitutional aplastic anemia |
| D61.1 | Drug-induced aplastic anemia |
| D61.2 | Aplastic anemia due to other external agents |
| D61.3 | Idiopathic aplastic anemia |
| D61.89 | Other specified aplastic anemias and other bone marrow failure syndromes |
| D61.9 | Aplastic anemia, unspecified |
| D75.81 | Myelofibrosis |
| J91.0 | Malignant pleural effusion |
| Z15.01 | Genetic susceptibility to malignant neoplasm of breast |
| Z15.02 | Genetic susceptibility to malignant neoplasm of ovary |
| Z17.0 | Estrogen receptor positive status [ER+] |
| Z80.0 | Family history of malignant neoplasm of digestive organs |
| Z80.1 | Family history of malignant neoplasm of other respiratory and intrathoracic organs |
| Z80.2 | Family history of malignant neoplasm of trachea, bronchus and lung |
| Z80.3 | Family history of malignant neoplasm of breast |
| Z80.41 | Family history of malignant neoplasm of ovary |
| Z80.42 | Family history of malignant neoplasm of prostate |
| Z80.43 | Family history of malignant neoplasm of testis |
| Z80.49 | Family history of malignant neoplasm of other genital organs |
| Z80.51 | Family history of malignant neoplasm of kidney |
| Z80.52 | Family history of malignant neoplasm of bladder |
| Z80.59 | Family history of malignant neoplasm of other urinary tract organ |
| Z80.6 | Family history of leukemia |
| Z80.7 | Family history of lymphoid, hematopoietic and related tissues |
| Z80.8 | Family history of malignant neoplasm of other organs or systems |
| Z80.9 | Family history of malignant neoplasm, unspecified |
| Z85.038 | Personal history of other malignant neoplasm of large intestine |
| Z85.048 | Personal history of other malignant neoplasm of rectum, rectosigmoid junction, and anus |
| Z85.07 | Personal history of malignant neoplasm of pancreas |
| Z85.3 | Personal history of malignant neoplasm of breast |
| Z85.43 | Personal history of malignant neoplasm of ovary |
| Z85.44 | Personal history of malignant neoplasm of other female genital organs |
| Z85.45 | Personal history of malignant neoplasm of unspecified male genital organ |
| Z85.46 | Personal history of malignant neoplasm of prostate |
| Z85.49 | Personal history of malignant neoplasm of other male genital organs |
| Z85.820 | Personal history of malignant melanoma of skin |

## Informational

Examples of Genetic Testing Panels
*This list is not all-inclusive. This table is strictly informational and does not indicate medical necessity.*

| Name of Test |
|---|
| **ARUP Laboratories** |
| *Agammaglobulinemia Panel* |
| *Amyotrophic Lateral Sclerosis Pane* |
| *Aortopathy Panel* |
| *Ashkenazi Jewish Diseases Panel* |
| *Autism Panel* |
| *Biotinidase Deficiency (BTD) 5 Mutation* |
| *Brugada Syndrome Panel* |
| *Cardiomyopathy and Arrhythmia Panel* |
| *Cystic Fibrosis (CFTR) 32 Mutations Panel* |
| *Mitochondrial Disorders Panel* |
| *Noonan Spectrum Disorders Panel* |
| *Periodic Fever Syndromes Panel* |
| *Retinitis Pigmentosa/Leber Congenital Amaurosis Panel* |
| *Solid Tumor Mutation Panel Next Generation Sequencing* |
| *Vascular Malformation Syndromes* |
| **Emory Genetics Laboratories** |
| *ACOG/ACMG Carrier Screen Targeted Mutation Panel* |
| *Anophthalmia/ Microphthalmia/ Anterior Segment Dysgenesis/ Anomaly: Sequencing Panel* |
| *Arrhythmias Deletion/Duplication Panel* |
| *Arrhythmias Sequencing Panel* |
| *Autism Spectrum Disorders* |
| *Cardiomyopathy Panel* |
| *Ciliopathies Panel* |
| *Congenital Glycosylation Disorders* |
| *Early Onset IBD Sequencing and Del/Dup Panels* |
| *Epilepsy* |
| *Eye Disorders* |
| *Expanded Neuromuscular Disorders* |
| *Hereditary Hemolytic Anemia Sequencing 28 Genes* |
| *Noonan Syndrome and Related Disorders* |
| *Osteogenesis Inperfecta and Osteopenia Sequencing Panel* |
| *Short Stature Panel* |
| *Sudden Cardiac Arrest Panel* |
| *X-linked Intellectual Disability* |
| **Ambry Genetics** |
| *BreastNext™* |
| *CancerNext™* |
| *ColoNext™* |
| *FHNext* |
| *HCMNext* |

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| *Marfan, Aneurysm and Related Disorders Panel* |
| *OvaNext™* |
| *Pan Cardio Panel* |
| *PancNext* |
| *RenalNext* |
| *TAADNext* |
| *X-linked Intellectual Disability* |
| **Athena** |
| *Alzheimer's Disease* |
| *Amyotrophic Lateral Sclerosis Advanced Evaluation Gene Panel* |
| *Ataxia, Comprehensive Evaluation* |
| *Autosomal Recessive Ataxia Evaluation* |
| *Common Mitochondrial Disorder Evaluation* |
| *Complete Ataxia Evaluation Panel* |
| *Complete Hereditary Spastic Paraplegia Evaluation Panel* |
| *Early Infantile Epileptic Encephalopathy* |
| *Hemiplegic Migraine Profile* |
| *Hereditary Renal Tubular Disorder Panel* |
| *Intellectual Disability* |
| *Mitochondrial Disease Associated with Mitochondrial Depletion Syndrome* |
| *Myotonic Syndrome Advanced Evaluation Panel* |
| *Periodic Paralysis Advanced Sequencing Evaluation Panel* |
| *Progressive External Ophthalmoplegia Evaluation Panel* |
| *Idiopathic Hypogonadotropic Hypogonadism/Kallmann Syndrome* |
| **Baylor College of Medicine** |
| *Cobalamin Metabolism Comprehensive Panel* |
| *CoQ10 Comprehensive Panel* |
| *GeneAware* |
| *Glycogen Storage Disorders Panel* |
| *Low Bone Mass Panel* |
| *Mitochondrial Disorders Panel* |
| *Myopathy/Rhabdomyolysis Panel* |
| *Progressive External Ophthalmoplegia Panel* |
| *Pyruvate Dehydrogenase Deficiency and Mitochondrial Respiratory Chain Complex V Deficiency Panel* |
| *Retinitis Pigmentosa Panel* |
| *Usher Syndrome Panel* |
| **GeneDx** |
| *Autism/ID Xpanded Panel* |
| *Breast/Ovarian Cancer Panel* |
| *Cardiomyopathy Panel* |
| *Colorectal Cancer Panel* |
| *Combined Cardiac Panel* |
| *Combined Mito Genome Plus Mito Nuclear Gene Panel* |
| *Comprehensive Hereditary Cancer Panel* |
| *Comprehensive Arrhythmia Panel* |
| *Comprehensive Cancer Panel* |

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|---|
| *Comprehensive Epilepsy Panel* |
| *Comprehensive Mitochondrial Nuclear Gene Panel* |
| *Congenital Ichthyosis XomeDxSlice Panel* |
| *Congenital Myopathy and Congenital Muscular Dystrophy Panel* |
| *Dilated Cardiomyopathy (DCM) Left Ventricular Non-Compaction (LVNC)* |
| *Endometrial Cancer Panel* |
| *EpiXpanded Panel* |
| *Heterotaxy Panel* |
| *High-Moderate Risk Panel* |
| *Hyper-IgE Syndromes Panel* |
| *Hypertrophic Cardiomyopathy (HCM) Panel* |
| *Marfan Syndrome/TAAD Sequencing Panel* |
| *Noonan RASopathies Panel* |
| *Noonan Syndrome Panel* |
| *Pancreatic Cancer Panel* |
| *Prenatal Noonan Spectrum Disorders* |
| *Prenatal Skeletal Dysplasia Panel* |
| *Progressive External Ophthalmoplegia (PEO)/Optic Atrophy Nuclear Gene Panel* |
| *Rett/Angelman Syndrome Panel* |
| *Syndromic Macrocephaly Overgrowth Panel* |
| *XomeDxPlus (whole exome sequencing [WES] + mtDNA Sequencing and Deletion Testing* |
| **Medical Neurogenetics** |
| *Leigh Disease Panel* |
| *Spastic Paraplegia Next Generation Sequencing* |
| **Partners Healthcare** |
| *Isolated Non-syndromic Congenital Heart Defects Panel* |
| *Noonan Spectrum Panel*<br>*Pan Cardiomyopathy Panel* |
| *Usher Syndrome Panel* |
| **Mayo Medical Laboratories** |
| *Arrhythmogenic Right Ventricular Cardiomyopathy Panel* |
| *Bacterial Typing by whole Genome Sequencing* |
| *Brugada Syndrome* |
| *Comprehensive Cardiomyopathy Multi-Gene Panel* |
| *Congenital Disorders Chromosome Analysis (CDCA)* |
| *Dilated Cardiomyopathy Panel* |
| *Hereditary Colon Cancer Syndromes* |
| *Hypertrophic Cardiomyopathy Panel* |
| *Long QT Syndrome* |
| *Marfan Syndrome Panel* |
| *Noonan Syndrome Panel* |
| **Signature Genomics** |
| *Signature Prenatal Microarray* |
| **Counsyl Genomics** |
| *Counsyl Panel* |
| **GoodStart Genetics** |
| *GoodStart Select* |

## Reimbursement

Participating facilities will be reimbursed per their Highmark Wholecare℠ contract.

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