



Genetic testing: oncology - algorithmic testing

These services may or may not be covered by your HealthPartners plan. Please see your plan documents for your specific coverage information. If there is a difference between this general information and your plan documents, your plan documents will be used to determine your coverage.

Administrative Process

Prior authorization is not required for the following tests as they are considered investigational/experimental and therefore not covered:

- Colorectal Cancer Prognostic Algorithmic Tests
- Emerging Evidence Cutaneous Melanoma Prognostic Algorithmic Tests
- Ovarian Cancer Diagnostic Algorithmic Tests
- Gynecologic Cancer Treatment Algorithmic Tests
- Emerging Evidence Lung Cancer Treatment Algorithmic Tests
- Emerging Evidence Lung Cancer Diagnostic Algorithmic Tests
- Emerging Evidence Prostate Cancer Risk Assessment and Diagnostic Algorithmic Tests
- Bladder/Urinary Tract Cancer Diagnostic Algorithmic Tests
- Cancer of Unknown Primary Gene Expression Profiling Tests
- PreciseDx™ Breast Cancer Test
- Emerging Evidence Pancreatic Cyst Risk Assessment Algorithmic Tests
- Gene Expression Profiling Breast Cancer Subtyping Tests
- Polygenic Risk Score Tests

Prior authorization is required for all other algorithmic testing including:

- Bladder/Urinary Tract Cancer Treatment and Recurrence Algorithmic Tests
- Cutaneous Melanoma Diagnostic Algorithmic Tests
- Cutaneous Melanoma Risk Assessment Algorithmic Tests
- Breast Cancer Treatment and Prognostic Algorithmic Tests
- Breast Cancer Extended Endocrine Therapy Algorithmic Tests
- Breast DCIS Prognostic Algorithmic Tests
- Prostate Cancer Treatment and Prognostic Algorithmic Tests
- Evidence Based Prostate Cancer Risk Assessment and Diagnostic Algorithmic Tests (except 84153 and 84154)
- Thyroid Cancer Diagnostic Algorithmic Tests
- Uveal Melanoma Prognostic Algorithmic Tests
- Evidence Based Cutaneous Melanoma Prognostic Algorithmic Tests
- Evidence Based Lung Cancer Diagnostic Algorithmic Tests
- Evidence Based Lung Cancer Treatment Algorithmic Tests
- Evidence Based Pancreatic Cyst Risk Assessment Algorithmic Tests
- Testing that is associated with a procedure code listed in "Box A", below.

Prior authorization is not required for the following:

- Ovarian cancer treatment algorithmic tests

Tests that require prior authorization will be reviewed for medical necessity of the testing as a whole. That is, a single coverage decision will apply to all of the tests, services, and/or procedure codes associated with the genetic test, whether they are requested/billed together or separately.

Box A: Genetic testing procedure codes that require prior authorization
Molecular pathology procedures, Tier 2 or unlisted (CPT 81400-81408, 81479)
Unlisted multianalyte assays (CPT 81599)
Any other listed or unlisted laboratory/pathology CPT code when it is used in association with a genetic test.

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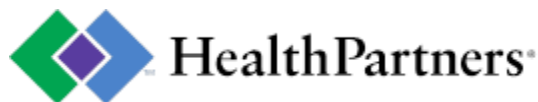
Policy Reference Table

If available, codes are listed below for informational purposes only, and do not guarantee member coverage or provider reimbursement. The list may not be all-inclusive.

Coverage Criteria Sections	Example Tests, Labs	Common CPT Codes	Common ICD Codes
Breast Cancer			
Breast Cancer Treatment and Prognostic Algorithmic Tests	Oncotype Dx Breast Recurrence Score (Exact Sciences)	81519	C50.011-C50.92, Z17.0
Breast Cancer Extended Endocrine Therapy Algorithmic Tests	Breast Cancer Index (bioTheranostics)	81518	C50.011-C50.92, Z17.0
Breast Cancer Prognostic Algorithmic Tests	EndoPredict (Myriad)	81522	C50, Z17.0, Z17.1
	MammaPrint (Agendia, Inc.)	81521, 81523	
	Prosigna Assay (NeoGenomics)	81520	
Gene Expression Profiling Breast Cancer Subtyping Tests	BluePrint (Agendia, Inc.)	81599	C50-C50.929
Breast DCIS Prognostic Algorithmic Tests	Oncotype DX Breast DCIS Score (Exact Sciences)	0045U	D05.1
Colorectal Cancer			
Colorectal Cancer Prognostic Algorithmic Tests	Oncotype DX Colon Recurrence Score (Exact Sciences)	81525	C18.0-C18.9
	miR-31now (GoPath Laboratories)	0069U	
	Immunoscore (Veracyte)	0261U	
Prostate Cancer			
Prostate Cancer Treatment and Prognostic Algorithmic Tests	Oncotype DX Genomic Prostate Score (MDxHealth)	0047U	C61
	Decipher Prostate Biopsy Genomic Classifier (Veracyte)	81542	
	Decipher Prostate RP Genomic Classifier (Veractye)		
	Prolaris (Myriad Genetics)	81541	
	ArteraAI Prostate Test (Artera)	0376U	
Evidence-Based Prostate Cancer Risk Assessment and Diagnostic Algorithmic Tests	4K Prostate Score (Serum) (BioReference Laboratories)	81539	C61, Z12.5
	Prostate Health Index (ARUP Laboratories)	84153, 84154, 86316	
	SelectMDx for Prostate Cancer (MDx Health)	0339U	
	ExoDx Prostate Test (ExosomeDx)	0005U	
	IsoPSA (Cleveland Diagnostics, Inc)	0359U	
	MyProstateScore (Lynx DX)	0113U	
	ConfirmMDx for Prostate Cancer (MDxHealth)	81551	
	Prostate Cancer Gene 3 (Integrated Regional Laboratories)	81479	
Emerging Evidence Prostate Cancer Risk Assessment and Diagnostic Algorithmic Tests	PanGIA Prostate (Genetics Institute of America)	0228U	C61, Z12.5
	MyProstateScore 2.0 (Lynx Dx)	0403U	

	miR Sentinel Prostate Cancer Test (miR Scientific)	0343U, 0424U	
	EpiSwitch Prostate Screening Test (PSE) (Oxford BioDynamics)	0433U	
	Stockholm3 (BioAgilytix Diagnostics)	0495U	
	OncoAssure Prostate (DiaCarta, Inc.)	0497U	
	Tempus p-MSI (Tempus AI, Inc)	0512U	
	Tempus p-Prostate (Tempus AI, Inc)	0513U	
	Thyroid Cancer		
Thyroid Cancer Diagnostic Algorithmic Tests	ThyroSeq Genomic Classifier (CBLPath)	0026U	C73, D44.0, E04.1
	ThyGeNEXT (Interpace Diagnostics)	0245U	
	ThyraMIR (Interpace Diagnostics)	0018U	
	Afirma Genomic Sequencing Classifier (Veracyte)	81546	
	Afirma Xpression Atlas (Veracyte)	0204U	
	ThyroSeq CRC (UPMC)	0287U	
Uveal Melanoma			
Uveal Melanoma Prognostic Algorithmic Tests	DecisionDX-UM (Castle Bioscience, Inc.)	81552	C69
Cutaneous Melanoma			
Evidence-Based Cutaneous Melanoma Prognostic Algorithmic Tests	DecisionDX-Melanoma (Castle Biosciences, Inc.)	81529	C43, D03.0-D03.9, Z12.83
	Merlin Melanoma (BioCartis)	81479	
	MelaNodal (Quest)	81599	
Emerging Evidence Cutaneous Melanoma Prognostic Algorithmic Tests	AMBL or (AMLo Biosciences)	0387U	C43, D03.0-D03.9, Z12.83
Cutaneous Melanoma Diagnostic Algorithmic Tests	myPath Melanoma (Castle Biosciences Inc.)	0090U	D22.0-D22.9, D48.5, D49.2, Z12.83
	DecisionDx-DiffDx-Melanoma (Castle Biosciences, Inc.)	0314U	
Cutaneous Melanoma Risk Assessment Algorithmic Tests	Pigmented Lesion Assay (DermTech)	0089U	D22-D23, Z12.83
Ovarian Cancer			
Ovarian Cancer Diagnostic Algorithmic Tests	OVA1 (Aspira Women's Health)	81503	D27.0, D27.1, D27.9, D39.10-D39.12, D39.9, D49.59, D49.9
	Overa (Aspira Women's Health)	0003U	
	Risk of Ovarian Malignancy (ROMA) (Labcorp)	81500	
	OvaWatch (Aspira Women's Health)	0375U	
	Avantect Ovarian Cancer Test (ClearNote Health)	0507U	
Ovarian Cancer Treatment Algorithmic Tests	myChoice CDx (Myriad Genetics)	0172U	C48, C56, C57.0
Gynecologic Cancer			
	ChemoFx (Helomics Corporation)	81535	C51-C57

Gynecologic Cancer Treatment Algorithmic Tests	ChemoFx - Additional Drug (Helomics Corporation)	81536	
Lung Cancer			
Evidence-Based Lung Cancer Diagnostic Algorithmic Tests	Nodify XL2 (Biodesix)	0080U	R91.1
Emerging Evidence Lung Cancer Diagnostic Algorithmic Tests	REVEAL Lung Nodule Characterization (MagArray)	0092U	R91.1
	Percepta Lung Cancer Diagnostic (Veracyte)	81479	
	LungLB Test (LungLife AI)	0317U	
	Nodify CDT (Biodesix)	0360U	
	OncobiotaLUNGdetect (Mironoma)	0395U	
	CyPath Lung (Precision Pathology Laboratory)	0406U	
Evidence-Based Lung Cancer Treatment Algorithmic Tests	VeriStrat (Biodesix)	81538	C34, D38.1, D38.6
	Razor14/Risk Reveal (RazorGenomics)	81599	
	DetermaRx (Oncocyte Corporation)	0288U	
Emerging Evidence Lung Cancer Treatment Algorithmic Tests	LungOI (Imagene)	0414U	C34, D38.1, D38.6
	PROphet NSCLC Test (OncoHost Inc)	0436U	
Bladder and Urinary Tract Cancer			
Bladder/Urinary Tract Cancer Diagnostic Algorithmic Tests	CxBladder Detect+ (Pacific Edge)	0420U	R31.9
	Cxbladder Detect (Pacific Edge)	0012M	
	Oncuria Detect (DiaCarta Clinical Lab)	0365U	
Bladder/Urinary Tract Cancer Treatment and Recurrence Algorithmic Tests	Cxbladder Monitor (Pacific Edge)	0013M	C67, C68
	Decipher Bladder (Veracyte)	0016M	
	Cxbladder Triage (Pacific Edge)	0363U	
	Oncuria Monitor (DiaCarta Clinical Lab)	0366U	
	Oncuria Predict (DiaCarta Clinical Lab)	0367U	
Pancreatic Cancer			
Evidence-Based Pancreatic Cyst Risk Assessment Algorithmic Tests	PancaGEN (Interpace Diagnostics)	81479	D49, K86.2
Emerging Evidence Pancreatic Cyst Risk Assessment Algorithmic Tests	PancreaSeq Genomic Classifier (Univ of Pittsburgh Medical Center Molecular and Genomic Pathology Laboratory)	0313U	
Cancer of Unknown Primary			
Cancer of Unknown Primary Gene Expression Profiling Tests	CancerTYPE ID (Biotheranostics)	81540	C79.9, C80.0, C80.1
Polygenic Risk Score Tests			
Breast Cancer Polygenic Risk Score Tests	geneType for Breast Cancer (Genetic Technologies)	81599	Z13.71, Z13.79 Z80.3



Coverage

Breast Cancer

Breast Cancer Treatment and Prognostic Algorithmic Tests

1. The use of the breast cancer treatment and prognostic algorithmic test Oncotype DX Breast Recurrence Score is considered **medically necessary** when:
 - A. The member has primary breast cancer that is ductal/NST, lobular, mixed or micropapillary, **and**
 - B. The member's tumor is hormone receptor-positive (estrogen receptor-positive or progesterone receptor-positive), **and**
 - C. The member's tumor is human epidermal growth factor receptor 2 (HER2)- negative, **and**
 - D. The member is considering treatment with adjuvant therapy (e.g., tamoxifen, aromatase inhibitors, immunotherapy), **and**
 - E. The member is status post tumor resection and surgical axillary nodal staging and meets one of the following (regardless of menopausal status):
 - i. Tumor is greater than 0.5 cm and node negative (pN0), **or**
 - ii. Lymph nodes are pN1mi (2mm or smaller axillary node metastases), **or**
 - iii. Lymph nodes are pN1 (1-3 positive nodes)
2. The use of the breast cancer treatment and prognostic algorithmic test Oncotype DX Breast Recurrence Score is considered **investigational** for all other indications.

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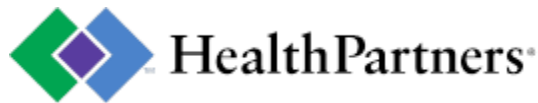
Breast Cancer Extended Endocrine Therapy Algorithmic Tests

1. The use of the breast cancer extended endocrine therapy test Breast Cancer Index (BCI) is considered **medically necessary** when:
 - A. The member has primary breast cancer that is ductal/NST, lobular, mixed or micropapillary, **and**
 - B. The member's tumor is hormone receptor-positive (estrogen receptor-positive or progesterone receptor-positive), **and**
 - C. The member's tumor is HER2-negative, **and**
 - D. The member has no distant metastases, **and**
 - E. The member has completed at least 4 years of endocrine therapy, **and**
 - F. The member is considering extended treatment with adjuvant therapy (e.g., tamoxifen, aromatase inhibitors, immunotherapy), **and**
 - G. The member meets one of the following (regardless of menopausal status):
 - i. Tumor is greater than 0.5 cm and node negative (pN0), **or**
 - ii. Lymph nodes are pN1mi (2mm or smaller axillary node metastases), **or**
 - iii. Lymph nodes are pN1 (1-3 positive nodes)
2. The use of the breast cancer extended endocrine therapy test Breast Cancer Index (BCI) is considered **investigational** for all other indications.

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Breast Cancer Prognostic Algorithmic Tests

1. The use of a breast cancer prognostic algorithmic test (i.e., Endopredict, Prosigna, MammaPrint) is considered **medically necessary** when:
 - A. The member meets at least one of the following:
 - i. Postmenopausal status, **or**
 - ii. Greater than 50 years of age, **and**
 - B. The member has primary breast cancer that is ductal/NST, lobular, mixed or micropapillary, **and**
 - C. The member's tumor is estrogen receptor-positive, **and**
 - D. The member's tumor is human epidermal growth factor receptor 2 (HER2)-negative; **and**
 - E. The member is considering treatment with adjuvant therapy (for example, tamoxifen, aromatase inhibitors, immunotherapy), **and**
 - F. The member has had axial nodal staging and has the following node status:
 - i. pN0, nodes negative pathologically, **or**
 - ii. pN1mi or pN1 (1-3 nodes positive pathologically *).
2. The use of a breast cancer prognostic algorithmic test (i.e., EndoPredict, Prosigna, MammaPrint) in individuals with 4 or more positive nodes is considered **investigational**.
3. The use of the breast cancer prognostic algorithmic test Prosigna in individuals with 1-3 node positive breast cancer is considered **investigational**.
4. The use of a breast cancer prognostic algorithmic test (i.e., Endopredict, Prosigna, MammaPrint) is considered **investigational** for all other indications.



*Prosigna is indicated for node negative disease, but **not** for disease with 1-3 positive nodes. EndoPredict and Mammaprint are indicated for node negative disease and for disease with 1-3 positive nodes.

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Gene Expression Profiling Breast Cancer Subtyping Tests

1. Gene expression profiling breast cancer subtyping tests (e.g., Blueprint) are considered **investigational**.

Breast DCIS Prognostic Algorithmic Tests

1. Breast DCIS prognostic algorithmic tests are considered **medically necessary** when:
 - A. The member has ductal carcinoma in situ (DCIS), **and**
 - B. The tumor specimen contains at least 0.5 mm of DCIS, **and**
 - C. The result of testing would aid in treatment decision-making (i.e., pursuing additional surgery or radiation therapy), **and**
 - D. The patient's DCIS was not removed via mastectomy (i.e., there is residual ipsilateral breast tissue).
2. Breast DCIS prognostic algorithmic tests are considered **investigational** for all other indications.

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Colorectal Cancer

Colorectal Cancer Prognostic Algorithmic Tests

1. Colorectal cancer prognostic algorithmic tests are considered **investigational**.

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Prostate Cancer

Prostate Cancer Treatment and Prognostic Algorithmic Tests

1. The use of a prostate cancer treatment and prognostic algorithmic test (i.e., Oncotype DX Prostate, Prolaris, Decipher, ArteraAI) is considered **medically necessary** when:
 - A. The member has a life expectancy of 10 years or more, **and**
 - B. The member does not have either of the following:
 - i. Very low-risk prostate cancer, **or**
 - ii. Very high-risk prostate cancer.
2. The use of the prostate cancer treatment and prognostic algorithmic test Decipher assay is considered **medically necessary** when:
 - A. The member has a life expectancy of more than 5 years, **and**
 - i. The member has had radical prostatectomy, **and**
 - a) There are no lymph node metastases, **and**
 - b) There is PSA persistence/recurrence.
3. The use of a prostate cancer treatment and prognostic algorithmic test is considered **investigational** for all other indications.

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Evidence-Based Prostate Cancer Risk Assessment and Diagnostic Algorithmic Tests

1. Prostate cancer risk assessment and diagnostic algorithmic tests with sufficient evidence of clinical validity and utility are considered **medically necessary** when:
 - A. The member meets all of the following:
 - i. The member has not had a prostate biopsy, **and**
 - ii. The member has at least one of the following:
 - a) Prostate specific antigen (PSA) of >3 ng/ml, **or**
 - b) A digital rectal exam (DRE) that is suspicious for cancer, **and**
 - iii. The test is one of the following:
 - a) Prostate Health Index (PHI), **or**
 - b) SelectMDx, **or**
 - c) 4Kscore, **or**
 - d) ExoDx Prostate Test, **or**
 - e) MyProstateScore (MPS), **or**
 - f) IsoPSA, **or**
 - B. The member meets all of the following:
 - i. The member has had a prostate biopsy, **and**
 - ii. The result is one of the following:
 - a) Atypia, suspicious for cancer, **or**
 - b) High-grade prostatic intraepithelial neoplasia (PIN), **or**
 - c) Benign, **and**
 - iii. The test is one of the following:
 - a) Prostate Health Index (PHI), **or**
 - b) 4Kscore, **or**
 - c) ExoDx Prostate Test, **or**
 - d) MyProstateScore (MPS), **or**

- e) IsoPSA, **or**
- f) ConfirmMDx, **or**
- g) PCA3.

- 2. The use of prostate cancer risk assessment algorithmic tests with sufficient evidence of clinical validity and utility are considered **investigational** for all other indications where clinical validity and utility have not been demonstrated.

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Emerging Evidence Prostate Cancer Risk Assessment and Diagnostic Algorithmic Tests

- 1. Prostate cancer risk assessment and diagnostic algorithmic tests with insufficient guidance for use are considered **investigational**.

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Thyroid Cancer

Thyroid Cancer Diagnostic Algorithmic Tests

- 1. The use of a thyroid cancer diagnostic algorithmic test in fine needle aspirates of thyroid nodules is considered **medically necessary** when:
 - A. The fine needle aspirate showed indeterminate cytologic findings (i.e., Bethesda diagnostic category III or IV), **and**
 - B. The result of the test would affect surgical decision making.
- 2. The use of a thyroid cancer diagnostic algorithmic test in fine needle aspirates of thyroid nodules is considered **investigational** for all other indications.

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Uveal Melanoma

Uveal Melanoma Prognostic Algorithmic Tests

- 1. The use of a uveal melanoma prognostic algorithmic test is considered **medically necessary** when:
 - A. The member has primary, localized uveal melanoma.
- 2. The use of a uveal melanoma prognostic algorithmic test is considered **investigational** for all other indications.

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Cutaneous Melanoma

Evidence Based Cutaneous Melanoma Prognostic Algorithmic Tests

- 1. Cutaneous melanoma prognostic algorithmic tests with sufficient evidence of clinical validity and utility are considered **medically necessary** when:
 - A. The member has either of the following:
 - i. Stage I melanoma (staging based on AJCC (American Joint Committee on Cancer)), **or**
 - ii. Stage II melanoma (staging based on AJCC (American Joint Committee on Cancer)), **and**
 - B. The member does not have metastatic disease, **and**
 - C. The results of the testing will inform subsequent biopsy decisions, use of adjuvant therapy(ies), or follow-up screening protocols.
- 2. Cutaneous melanoma prognostic algorithmic tests with sufficient evidence of clinical validity and utility are considered **investigational** for all other indications where clinical validity and utility have not been demonstrated.

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Emerging Evidence Cutaneous Melanoma Prognostic Algorithmic Tests

- 1. Cutaneous melanoma prognostic algorithmic tests with insufficient evidence of clinical validity are considered **investigational**.

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Cutaneous Melanoma Diagnostic Algorithmic Tests

- 1. Cutaneous melanoma diagnostic algorithmic tests are considered **medically necessary** when:
 - A. The member has a melanocytic neoplasm that is diagnostically uncertain or equivocal after histopathology.
- 2. Cutaneous melanoma diagnostic algorithmic tests are considered **investigational** for all other indications, including:
 - A. A melanocytic neoplasm that has pathology definitive for melanoma, desmoplastic melanoma, or sclerosing nevus.

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Cutaneous Melanoma Risk Assessment Algorithmic Tests

- 1. Cutaneous melanoma risk assessment algorithmic tests are considered **medically necessary** when:
 - A. The member has a melanocytic neoplasm that shows at least one ABCDE (asymmetry, border irregularity, color variegation, diameter >6 mm, and evolution) feature, **and**

- B. A biopsy is being considered but has not yet been performed, **and**
- C. The use of the test is limited to a maximum of 2 times per visit.
- 2. Cutaneous melanoma risk assessment algorithmic tests are considered **investigational** for all other indications.

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Ovarian Cancer

Ovarian Cancer Diagnostic Algorithmic Tests

- 1. Ovarian cancer diagnostic algorithmic tests (i.e., OVA1, Overa, ROMA, and OvaWatch) are considered **investigational** for all indications, including but not limited to:
 - A. Preoperative evaluation of adnexal masses to triage for malignancy
 - B. Screening for ovarian cancer
 - C. Selecting patients for surgery for an adnexal mass
 - D. Evaluation of patients with clinical or radiologic evidence of malignancy
 - E. Evaluation of patients with nonspecific signs or symptoms suggesting possible malignancy
 - F. Postoperative testing and monitoring to assess surgical outcome and/or to detect recurrent malignant disease following treatment.

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Ovarian Cancer Treatment Algorithmic Tests

- 1. Ovarian cancer treatment algorithmic tests are considered **medically necessary** when:
 - A. The member has a diagnosis of ovarian cancer, **and**
 - B. The member is being considered for PARP inhibitor therapy.
- 2. Ovarian cancer treatment algorithmic tests are considered **investigational** for all other indications.

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Gynecologic Cancer

Gynecologic Cancer Treatment Algorithmic Tests

- 1. Gynecologic cancer treatment algorithmic tests in the assessment of gynecological cancers are considered **investigational**.

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Lung Cancer

Evidence Based Lung Cancer Diagnostic Algorithmic Tests

- 1. Lung cancer diagnostic algorithmic tests with sufficient evidence of clinical validity and utility are considered **medically necessary** when:
 - A. The member is age 40 years or older, **and**
 - B. The member has a single lung nodule between 8 and 30 mm in diameter, **and**
 - C. The member has a risk of cancer of 50% or less according to the Mayo risk prediction algorithm, **and**
 - D. The member does **not** have a diagnosis of cancer (except for nonmelanoma skin cancer) within 5 years of the lung nodule detection.
- 2. Lung cancer diagnostic algorithmic tests with sufficient evidence of clinical validity and utility are considered **investigational** for all other indications where clinical validity and utility have not been demonstrated.

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Emerging Evidence Lung Cancer Diagnostic Algorithmic Tests

- 1. Lung cancer diagnostic algorithmic tests with insufficient evidence of clinical validity are considered **investigational**.

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Evidence-Based Lung Cancer Treatment Algorithmic Tests

- 1. Lung cancer treatment algorithmic tests with sufficient evidence of clinical validity and utility are considered **medically necessary** when:
 - A. The member has a non-squamous non-small cell lung cancer (NSCLC), **and**
 - B. The member's tumor size less than 5 cm, **and**
 - C. The member has no positive lymph nodes (stages I and IIa), **and**
 - D. The member is considering adjuvant platinum-containing chemotherapy.
- 2. Lung cancer treatment algorithmic tests with sufficient evidence of clinical validity and utility are considered **investigational** for all other indications where clinical validity and utility have not been demonstrated.

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Emerging Evidence Lung Cancer Treatment Algorithmic Tests

- 1. Lung cancer treatment algorithmic tests with insufficient evidence of clinical validity are considered **investigational**.

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Bladder and Urinary Tract Cancer

Bladder/Urinary Tract Cancer Diagnostic Algorithmic Tests



1. Bladder /urinary tract cancer diagnostic algorithmic tests are considered **investigational** for all indications.

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Bladder/Urinary Tract Cancer Treatment and Recurrence Algorithmic Tests

1. The use of bladder/urinary tract cancer treatment and recurrence algorithmic test is considered **medically necessary** when:
 - A. The member has a diagnosis of bladder cancer, **and**
 - B. Results of algorithmic testing will affect management decisions for the member's bladder cancer, **and**
 - C. The member has not previously undergone bladder cancer treatment and recurrence algorithmic testing for the current cancer diagnosis.
2. The use of bladder/urinary tract cancer treatment and recurrence algorithmic test is considered **investigational** for all other indications.

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Pancreatic Cancer

Evidence-Based Pancreatic Cyst Risk Assessment Algorithmic Tests

1. Pancreatic cyst risk assessment algorithmic tests with sufficient evidence of clinical validity and utility are considered **medically necessary** when:
 - A. The member has a pancreatic cyst, **and**
 - B. Initial testing (for example, CEA measurement, cytopathology and/or radiology) has been inconclusive for malignancy, **and**
 - C. The results of the test will impact treatment decisions (e.g., surgery, more aggressive treatment).
2. Pancreatic cyst risk assessment algorithmic tests with sufficient evidence of clinical validity and utility are considered **investigational** for all other indications where clinical validity and utility have not been demonstrated.

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Emerging Evidence Pancreatic Cyst Risk Assessment Algorithmic Tests

1. Pancreatic cyst risk assessment algorithmic tests with insufficient evidence of clinical validity are considered **investigational**.

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Cancer of Unknown Primary

Cancer of Unknown Primary Gene Expression Profiling Tests

1. The use of a cancer of unknown primary gene expression profiling test to evaluate the site of origin of a tumor of unknown primary, or to distinguish a primary from a metastatic tumor is considered **investigational**.

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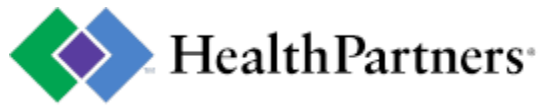
Polygenic Risk Score Tests

Breast Cancer Polygenic Risk Score Tests

1. The use of a breast cancer polygenic risk score test is considered **investigational**.

Definitions

1. **Ductal/NST breast cancer** is ductal cancer that is no special type (NST), meaning the cancer cells have no features that class them as a special type of breast cancer when examined by microscope.
2. **Thyroid nodules with indeterminate findings** include Bethesda diagnostic category III (atypia/follicular lesion of undetermined significance) or Bethesda diagnostic category IV (follicular neoplasm/suspicion for a follicular neoplasm)
3. **Adjuvant** therapy refers to medication (such as chemotherapy or endocrine therapy) given after the surgical removal of a cancerous tumor.
4. **PSA persistence/recurrence** is defined in the NCCN Prostate Cancer guidelines (4.2024) as failure of PSA to fall to undetectable levels (PSA persistence) or undetectable PSA after a radical prostatectomy with a subsequent detectable PSA that increases on 2 or more determinations (PSA recurrence) or that increases to PSA greater than 0.1 ng/mL (p. PROS-10)
5. **ABCDE** criteria is an acronym for examining patients with a lesion that is suspicious for melanoma: asymmetry, border irregularity, color variegation, diameter >6 mm, and evolution.
6. **Very high-risk prostate cancer:** Defined by NCCN as an individual who has no very-high-risk features but has at least one of the following high-risk features:
 - A. cT3a
 - B. Grade Group 4 or Grade Group 5
 - C. PSA >20ng/ml
7. **Very low risk prostate cancer:** Defined by NCCN as clinical stage T1c, Grade Group 1, PSA <10 mg/nl and density <0.15 ng/mL/g, biopsy shows <3 positive cores/fragments and <50% cancer in each core/fragment)



Products

This information is for most, but not all, HealthPartners plans. Please read your plan documents to see if your plan has limits or will not cover some items. If there is a difference between this general information and your plan documents, your plan documents will be used to determine your coverage. These coverage criteria do not apply to Medicare Products. For more information regarding Medicare coverage criteria or for a copy of a Medicare coverage policy, contact Member Services at 952-883-7272 or 1-877-778-8384.

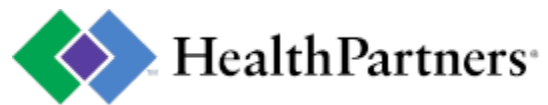
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References

1. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Breast Cancer. Version 2.2024. https://www.nccn.org/professionals/physician_gls/pdf/breast.pdf
2. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Colon Cancer. Version 3.2024. https://www.nccn.org/professionals/physician_gls/pdf/colon.pdf
3. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Prostate Cancer. Version 4.2024. https://www.nccn.org/professionals/physician_gls/pdf/prostate.pdf
4. Wei JT, Barocas D, Carlsson S, et al. Early detection of prostate cancer: AUA/SUO guideline: prostate cancer screening. *J Urol.* 2023;210(1):45-63.
5. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Thyroid Carcinoma. Version 2.2024. https://www.nccn.org/professionals/physician_gls/pdf/thyroid.pdf
6. Gharib H, Papini E, Garber JR, et al. American Association of Clinical Endocrinologists, American College of Endocrinology, and Associazione Medici Endocrinologi Medical Guidelines for Clinical Practice for the Diagnosis and Management of Thyroid Nodules--2016 Update. *Endocr Pract.* 2016;22(5):622-639. doi:10.4158/EP161208.GL.
7. Haugen BR, Alexander EK, Bible KC, et al. American Thyroid Association management guidelines for adult patients with thyroid nodules and differentiated thyroid cancer: The American Thyroid Association Guidelines Task Force on Thyroid Nodules and Differentiated Thyroid Cancer. *Thyroid.* 2016;26(1):1-133. doi:10.1089/thy.2015.0020.
8. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Uveal Melanoma. Version 1.2024. https://www.nccn.org/professionals/physician_gls/pdf/uveal.pdf
9. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Cutaneous Melanoma. Version 2.2024. https://www.nccn.org/professionals/physician_gls/pdf/cutaneous_melanoma.pdf
10. Swetter, SM, Tsao, H, Bichakjian, CK, et al. Guidelines of care for the management of primary cutaneous melanoma. *J Am Acad Dermatol.* 2019;80(1):208-250. doi:10.1016/j.jaad.2018.08.055.
11. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Ovarian Cancer including Fallopian Tube Cancer and Primary Peritoneal Cancer. Version 12.2024. https://www.nccn.org/professionals/physician_gls/pdf/ovarian.pdf
12. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Bladder Cancer. Version 4.2024. https://www.nccn.org/professionals/physician_gls/pdf/bladder.pdf
13. Holzbeierlein J, Bixler BR, Buckley DI, et al. Treatment of non-metastatic muscle-invasive bladder cancer: AUA/ASCO/SUO guideline (2017; amended 2020, 2024). *J Urol.* Published online April 25, 2024. doi:10.1097/JU.0000000000003981 <https://www.auajournals.org/doi/10.1097/JU.0000000000003981>
14. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Genetic/Familial High Risk Assessment: Breast, Ovarian and Pancreatic. Version 3.2024. https://www.nccn.org/professionals/physician_gls/pdf/genetics_bop.pdf
15. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Occult Primary (Cancer of Unknown Primary). Version 2.2024. https://www.nccn.org/professionals/physician_gls/pdf/occult.pdf
16. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Cervical Cancer. Version 3.2024. https://www.nccn.org/professionals/physician_gls/pdf/cervical.pdf
17. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Uterine Neoplasms. Version 2.2024. https://www.nccn.org/professionals/physician_gls/pdf/uterine.pdf
18. Eggener SE, Rumble RB, Armstrong AJ, et al. Molecular Biomarkers in Localized Prostate Cancer: ASCO Guideline. *J Clin Oncol.* 2020;38(13):1474-1494. doi:10.1200/JCO.19.02768
19. Tew WP, Lacchetti C, Ellis A, et al. PARP Inhibitors in the Management of Ovarian Cancer: ASCO Guideline. *J Clin Oncol.* 2020;38(30):3468-3493. doi:10.1200/JCO.20.01924
20. AUC Committee Members, Fung MA, Vidal CI, et al. Appropriate use criteria for ancillary diagnostic testing in dermatopathology: New recommendations for 11 tests and 220 clinical scenarios from the American Society of Dermatopathology Appropriate Use Criteria Committee. *J Cutan Pathol.* 2022;49(3):231-245. doi:10.1111/cup.14135
21. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Prostate Cancer Early Detection. Version 2.2024. https://www.nccn.org/professionals/physician_gls/pdf/prostate_detection
22. Andre F, Ismaila N, Allison KH, et al. Biomarkers for Adjuvant Endocrine and Chemotherapy in Early-Stage Breast Cancer: ASCO Guideline Update [published correction appears in *J Clin Oncol.* 2022 Aug 1;40(22):2514]. *J Clin Oncol.* 2022;40(16):1816-1837. doi:10.1200/JCO.22.00069
23. ECRI. DecisionDx-Melanoma (Castle Biosciences, Inc.) for Evaluating Prognosis and Guiding Management of Cutaneous Melanoma. Genetic Test Assessment. 2023 Oct.
24. Swetter, S and Geller, A. Melanoma: Clinical features and diagnosis. In: UpToDate, Connor RF (Ed), Wolters Kluwer. <https://www.uptodate.com>. Accessed March 21, 2024.

25. Centers for Medicare & Medicaid Services. (2023) MolDX: Pigmented Lesion Assay (L38051). Original effective date: 02/10/2020. Available at: <https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdid=38151>
26. ECRI. Pigmented Lesion Assay (DermTech) for Aiding Melanoma Diagnosis. Genetic Test Assessment. 2023 March.
27. Centers for Medicare & Medicaid Services. Medicare Coverage Database: Local Coverage Determination. MolDX: Predictive Classifiers for Early Stage Non-Small Cell Lung Cancer (L38238). Available at: <https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdid=38238>
28. Centers for Medicare & Medicaid Services. Medicare Coverage Database: Local Coverage Determination. MolDX: Loss-of-Heterozygosity Based Topographic Genotyping with PathfinderTG. (L34864). Available at: <https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdid=34864>
29. Centers for Medicare & Medicaid Services. Medicare Coverage Database: Local Coverage Local Coverage Determination MolDX: Oncotype DX Breast Cancer for DCIS (Genomic Health) (L36912). Available at: <https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdid=36912>
30. Centers for Medicare & Medicaid Services., Dep't of Health & Human Services ("CMS"), Medicare Coverage Database: Local Coverage Determination "MolDX: Prognostic and Predictive Molecular Classifiers for Bladder Cancer" (L38576). Available at: <https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdid=38576>
31. Centers for Medicare & Medicaid Services. Medicare Coverage Database: Billing and Coding. MolDX: Predictive Classifiers for Early Stage Non-Small Cell Lung Cancer (A58031). Available at: <https://www.cms.gov/medicare-coverage-database/view/article.aspx?articleid=58031>
32. Arfoosh R, Nguyen K, Fish A, et al. Risk assessment of indeterminate lung nodule characterization by a novel plasma-protein multiplexed assay in current smokers: Results of a clinical experience program. *Biomed Res Rev.* 2019; Vol 3: 1-4
33. Smester G, Medina JG, Brown C, et al. Overcoming the pitfalls of current lung cancer risk assessment: Improved lung nodule characterization by a novel plasma protein biomarker test. *Biomed Res Rev.* 2019; Vol 3: 1-4
34. Trivedi NN, Arjomandi M, Brown JK, et al. Risk assessment for indeterminate pulmonary nodules using a novel, plasma-protein based biomarker assay. *Biomed Res Clin Pract.* 2018;3(4):10.15761/brcp.1000173. doi:10.15761/brcp.1000173
35. Trivedi NN, Brown JK, Rubenstein T, et al. Analytical validation of a novel multi-analyte plasma test for lung nodule characterization. *Biomed Res Rev.* 2018;2(3):123. doi:10.15761/brr.1000123
36. Feller-Kopman D, Liu S, Geisler BP, DeCamp MM, Pietzsch JB. Cost-Effectiveness of a Bronchial Genomic Classifier for the Diagnostic Evaluation of Lung Cancer. *J Thorac Oncol.* 2017;12(8):1223-1232. doi:10.1016/j.jtho.2017.04.030
37. Hu Z, Whitney D, Anderson JR, et al. Analytical performance of a bronchial genomic classifier. *BMC Cancer.* 2016;16:161. Published 2016 Feb 26. doi:10.1186/s12885-016-2153-0
38. Johnson MK, Wu S, Pankratz DG, et al. Analytical validation of the Percepta genomic sequencing classifier; an RNA next generation sequencing assay for the assessment of Lung Cancer risk of suspicious pulmonary nodules. *BMC Cancer.* 2021;21(1):400. Published 2021 Apr 13. doi:10.1186/s12885-021-08130-x
39. Silvestri GA, Vachani A, Whitney D, et al. A Bronchial Genomic Classifier for the Diagnostic Evaluation of Lung Cancer. *N Engl J Med.* 2015;373(3):243-251. doi:10.1056/NEJMoa1504601
40. Vachani A, Whitney DH, Parsons EC, et al. Clinical Utility of a Bronchial Genomic Classifier in Patients With Suspected Lung Cancer. *Chest.* 2016;150(1):210-218. doi:10.1016/j.chest.2016.02.636
41. Whitney DH, Elashoff MR, Porta-Smith K, et al. Derivation of a bronchial genomic classifier for lung cancer in a prospective study of patients undergoing diagnostic bronchoscopy. *BMC Med Genomics.* 2015;8:18. Published 2015 May 6. doi:10.1186/s12920-015-0091-3
42. Sethi, Sonali et al. "Percepta Genomic Sequencing Classifier and decision-making in patients with high-risk lung nodules: a decision impact study." *BMC pulmonary medicine* vol. 22,1 26. 6 Jan. 2022. doi:10.1186/s12890-021-01772-4
43. Lee, Hans J et al. "Impact of the Percepta Genomic Classifier on Clinical Management Decisions in a Multicenter Prospective Study." *Chest* vol. 159,1 (2021): 401-412. doi:10.1016/j.chest.2020.07.067
44. Kearney P, Hunsucker SW, Li X-J, Porter A, Springmeyer S, Mazzone P (2017) An integrated risk predictor for pulmonary nodules. *PLoS ONE* 12(5): e0177635. <https://doi.org/10.1371/journal.pone.0177635>
45. Li XJ, Hayward C, Fong PY, et al. A blood-based proteomic classifier for the molecular characterization of pulmonary nodules. *Sci Transl Med.* 2013;5(207):207ra142. doi:10.1126/scitranslmed.3007013
46. Ostrin EJ, Sidransky D, Spira A, Hanash SM. Biomarkers for Lung Cancer Screening and Detection. *Cancer Epidemiol Biomarkers Prev.* 2020;29(12):2411-2415. doi:10.1158/1055-9965.EPI-20-0865
47. Silvestri GA, Tanner NT, Kearney P, et al. Assessment of Plasma Proteomics Biomarker's Ability to Distinguish Benign From Malignant Lung Nodules: Results of the PANOPTIC (Pulmonary Nodule Plasma Proteomic Classifier) Trial. *Chest.* 2018;154(3):491-500. doi:10.1016/j.chest.2018.02.012
48. Tanner NT, Springmeyer SC, Porter A, et al. Assessment of Integrated Classifier's Ability to Distinguish Benign From Malignant Lung Nodules: Extended Analyses and 2-Year Follow-Up Results of the PANOPTIC (Pulmonary Nodule Plasma Proteomic Classifier) Trial. *Chest.* 2021;159(3):1283-1287. doi:10.1016/j.chest.2020.10.069
49. Pritchett MA, Sigal B, Bowling MR, et al. Assessing a biomarker's ability to reduce invasive procedures in patients with benign lung nodules: Results from the ORACLE study. *PLoS One.* 2023;18(7):e0287409. Published 2023 Jul 11. doi:10.1371/journal.pone.0287409
50. Kheir F, Uribe JP, Cedeno J, et al. Impact of an integrated classifier using biomarkers, clinical and imaging factors on clinical decisions making for lung nodules. *J Thorac Dis.* 2023;15(7):3557-3567. doi:10.21037/jtd-23-42
51. Dubin DP, Dinehart SM, Farberg AS. Level of Evidence Review for a Gene Expression Profile Test for Cutaneous Melanoma. *Am J Clin Dermatol.* 2019;20(6):763-770. doi:10.1007/s40257-019-00464-4
52. Keller J, Schwartz TL, Lizalek JM, et al. Prospective validation of the prognostic 31-gene expression profiling test in primary cutaneous melanoma. *Cancer Med.* 2019;8(5):2205-2212. doi:10.1002/cam4.2128
53. Gastman BR, Zager JS, Messina JL, et al. Performance of a 31-gene expression profile test in cutaneous melanomas of the head and neck. *Head Neck.* 2019;41(4):871-879. doi:10.1002/hed.25473
54. Vetto JT, Hsueh EC, Gastman BR, et al. Guidance of sentinel lymph node biopsy decisions in patients with T1-T2 melanoma using gene expression profiling. *Future Oncol.* 2019;15(11):1207-1217. doi:10.2217/fo-2018-0912

55. Gastman BR, Gerami P, Kurley SJ, Cook RW, Leachman S, Vetto JT. Identification of patients at risk of metastasis using a prognostic 31-gene expression profile in subpopulations of melanoma patients with favorable outcomes by standard criteria. *J Am Acad Dermatol.* 2019;80(1):149-157.e4. doi:10.1016/j.jaad.2018.07.028
56. Grossman D, Okwundu N, Bartlett EK, et al. Prognostic Gene Expression Profiling in Cutaneous Melanoma: Identifying the Knowledge Gaps and Assessing the Clinical Benefit. *JAMA Dermatol.* 2020;156(9):1004-1011. doi:10.1001/jamadermatol.2020.1729
57. Marchetti MA, Coit DG, Dusza SW, et al. Performance of Gene Expression Profile Tests for Prognosis in Patients With Localized Cutaneous Melanoma: A Systematic Review and Meta-analysis. *JAMA Dermatol.* 2020;156(9):953-962. doi:10.1001/jamadermatol.2020.1731
58. Greenhaw BN, Covington KR, Kurley SJ, et al. Molecular risk prediction in cutaneous melanoma: A meta-analysis of the 31-gene expression profile prognostic test in 1,479 patients. *J Am Acad Dermatol.* 2020;83(3):745-753. doi:10.1016/j.jaad.2020.03.053
59. Eggermont AMM, Bellomo D, Arias-Mejias SM, et al. Identification of stage I/IIA melanoma patients at high risk for disease relapse using a clinicopathologic and gene expression model. *Eur J Cancer.* 2020;140:11-18. doi:10.1016/j.ejca.2020.08.029
60. Martin BJ, Covington KR, Quick AP, Cook RW. Risk Stratification of Patients with Stage I Cutaneous Melanoma Using 31-Gene Expression Profiling. *J Clin Aesthet Dermatol.* 2021;14(9):E61-E63
61. Jarell A, Skenderis B, Dillon LD, et al. The 31-gene expression profile stratifies recurrence and metastasis risk in patients with cutaneous melanoma. *Future Oncol.* 2021;17(36):5023-5031. doi:10.2217/fon-2021-0996
62. Whitman ED, Koshenkov VP, Gastman BR, et al. Integrating 31-Gene Expression Profiling With Clinicopathologic Features to Optimize Cutaneous Melanoma Sentinel Lymph Node Metastasis Prediction. *JCO Precis Oncol.* 2021;5:PO.21.00162. Published 2021 Sep 13. doi:10.1200/PO.21.00162
63. Hsueh EC, DeBloom JR, Lee JH, et al. Long-Term Outcomes in a Multicenter, Prospective Cohort Evaluating the Prognostic 31-Gene Expression Profile for Cutaneous Melanoma. *JCO Precis Oncol.* 2021;5:PO.20.00119. Published 2021 Apr 6. doi:10.1200/PO.20.00119
64. Arnot SP, Han G, Fortino J, Han D, Fowler G, Vetto JT. Utility of a 31-gene expression profile for predicting outcomes in patients with primary cutaneous melanoma referred for sentinel node biopsy. *Am J Surg.* 2021;221(6):1195-1199. doi:10.1016/j.amjsurg.2021.03.028
65. Hyams DM, Covington KR, Johnson CE, Plasseraud KM, Cook RW. Integrating the melanoma 31-gene expression profile test with surgical oncology practice within national guideline and staging recommendations. *Future Oncol.* 2021;17(5):517-527. doi:10.2217/fon-2020-0827
66. Hieken TJ, Sadurni MB, Quattrocchi E, et al. Using the Merlin assay for reducing sentinel lymph node biopsy complications in melanoma: a retrospective cohort study. *Int J Dermatol.* 2022;61(7):848-854. doi:10.1111/ijd.16056
67. Dillon LD, McPhee M, Davidson RS, et al. Expanded evidence that the 31-gene expression profile test provides clinical utility for melanoma management in a multicenter study. *Curr Med Res Opin.* 2022;38(8):1267-1274. doi:10.1080/03007995.2022.2033560
68. Yousaf A, Tijen-Fooh FJ, Rentroia-Pacheco B, et al. Validation of CP-GEP (Merlin Assay) for predicting sentinel lymph node metastasis in primary cutaneous melanoma patients: A U.S. cohort study. *Int J Dermatol.* 2021;60(7):851-856. doi:10.1111/ijd.15594
69. Marchetti MA, Dusza SW, Bartlett EK. Utility of a Model for Predicting the Risk of Sentinel Lymph Node Metastasis in Patients With Cutaneous Melanoma. *JAMA Dermatol.* 2022;158(6):680-683. doi:10.1001/jamadermatol.2022.0970
70. Jarell A, Gastman BR, Dillon LD, et al. Optimizing treatment approaches for patients with cutaneous melanoma by integrating clinical and pathologic features with the 31-gene expression profile test. *J Am Acad Dermatol.* 2022;87(6):1312-1320. doi:10.1016/j.jaad.2022.06.1202
71. Farberg AS, Marson JW, Glazer A, et al. Expert Consensus on the Use of Prognostic Gene Expression Profiling Tests for the Management of Cutaneous Melanoma: Consensus from the Skin Cancer Prevention Working Group. *Dermatol Ther (Heidelb).* 2022;12(4):807-823. doi:10.1007/s13555-022-00709-x
72. Wisco OJ, Marson JW, Litchman GH, et al. Improved cutaneous melanoma survival stratification through integration of 31-gene expression profile testing with the American Joint Committee on Cancer 8th Edition Staging. *Melanoma Res.* 2022;32(2):98-102. doi:10.1097/CMR.0000000000000804
73. Thorpe RB, Covington KR, Caruso HG, et al. Development and validation of a nomogram incorporating gene expression profiling and clinical factors for accurate prediction of metastasis in patients with cutaneous melanoma following Mohs micrographic surgery. *J Am Acad Dermatol.* 2022;86(4):846-853. doi:10.1016/j.jaad.2021.10.062
74. Tassavor M, Martin BJ, Glazer AM. The Integrated i31-GEP Test Outperforms the MSKCC Nomogram at Predicting SLN Status in Melanoma Patients. *Anticancer Res.* 2023;43(10):4511-4516. doi:10.21873/anticancer.16644
75. Thao V, Dholakia R, Moriarty JP, Borah BJ, Dwarkasing J, Meves A. Cost evaluation of the Merlin assay for predicting melanoma sentinel lymph node biopsy metastasis. *Int J Dermatol.* 2023;62(1):56-61. doi:10.1111/ijd.16515
76. Bailey CN, Martin BJ, Petkov VI, et al. 31-Gene Expression Profile Testing in Cutaneous Melanoma and Survival Outcomes in a Population-Based Analysis: A SEER Collaboration. *JCO Precis Oncol.* 2023;7:e2300044. doi:10.1200/PO.23.00044
77. Dhillon S, Duarte-Bateman D, Fowler G, et al. Routine imaging guided by a 31-gene expression profile assay results in earlier detection of melanoma with decreased metastatic tumor burden compared to patients without surveillance imaging studies [published correction appears in Arch Dermatol Res. 2023 Apr 12;]. *Arch Dermatol Res.* 2023;315(8):2295-2302. doi:10.1007/s00403-023-02613-6
78. Yamamoto M, Sickie-Santanello B, Beard T, et al. The 31-gene expression profile test informs sentinel lymph node biopsy decisions in patients with cutaneous melanoma: results of a prospective, multicenter study. *Curr Med Res Opin.* 2023;39(3):417-423. doi:10.1080/03007995.2023.2165813
79. ECRI Institute. (2023) Percepta Genomic Sequencing Classifier (Veracyte, Inc.) for Assessing Indeterminate Lung Nodules. Plymouth Meeting, PA: ECRI Institute.
80. Minnesota statue 62Q.473 Biomarker Testing.



81. Iowa statute 514C.36 Biomarker Testing.