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## OVERVIEW

Gene expression profile analysis and protein biomarkers have been proposed as a means to risk-stratify patients with prostate cancer to guide treatment decisions. These tests are intended to be used either on prostate needle biopsy tissue to guide management decisions for active surveillance or therapeutic intervention, to guide radiotherapy use after radical prostatectomy (RP), or to guide medication selection after progression in metastatic castration-resistant prostate cancer.

The following tests are addressed in this policy:

- Prolaris (Myriad)
- ProMark (Metamark Genetics)
- Decipher (Veracyte, Inc.)
- Oncotype DX Prostate (Genomic Health)
- Oncotype DX AR-V7 Nuclear Detect (Genomic Health)

## MEDICAL CRITERIA

### Medicare Advantage Plans

#### Prolaris

Prolaris is covered for the following indications. See detailed criteria below.

- Early stage, needle biopsy proven prostate cancer, OR***
- Favorable intermediate risk, needle biopsy proven prostate cancer***

- The Prolaris™ assay is covered help determine which patients with early stage, needle biopsy proven prostate cancer, can be conservatively managed rather than treated with definitive surgery or radiation therapy, when the following clinical conditions are met:**
  - Needle biopsy with localized adenocarcinoma of prostate (no clinical evidence of metastasis or lymph node involvement), **and**
  - FFPE prostate biopsy specimen with at least 0.5 mm of cancer length, **and**
  - Patient Stage as defined by the one of the following:
    - Very Low Risk Disease (T1c AND Gleason Score  $\leq 6$  AND PSA  $\leq 10$  ng/mL AND  $<3$  prostate cores with tumor AND  $\leq 50\%$  cancer in any core AND PSA density of  $< 0.15$  ng/mL/g) **OR**
    - Low Risk Disease (T1-T2a AND Gleason Score  $\leq 6$  AND PSA  $\leq 10$  ng/mL), **and**
  - Patient has an estimated life expectancy of greater than or equal to 10 years, **and**
  - Patient is a candidate for and is considering conservative therapy and yet and would be eligible for definitive therapy (radical prostatectomy, radiation therapy or brachytherapy), **and**
  - Result will be used to determine treatment between definitive therapy and conservative management, **and**
  - Patient has not received pelvic radiation or androgen deprivation therapy prior to the biopsy, **and**
  - Test is ordered by a physician certified in the Myriad PROLARIS™ Certification and Training Registry (CTR), **and**
  - Patient is monitored for disease progression according to established standard of care, **and**
  - Physician must report the development of metastasis or prostate cancer deaths in patients not treated definitively who were deemed low risk by the assay.

**B. The Prolaris™ assay is covered help determine which patients with favorable intermediate risk, needle biopsy proven prostate cancer (as defined below), can be conservatively managed rather than treated with definitive surgery or radiation therapy, when the following clinical conditions are met:**

- Needle biopsy with localized adenocarcinoma of prostate (no clinical evidence of metastasis or lymph node involvement), **and**
- FFPE prostate biopsy specimen with at least 0.5 mm of cancer length, **and**
- Patients with favorable intermediate-risk disease, defined by the NCCN as follows:
  - Predominant Gleason grade 3 (i.e. Gleason score 3+4=7), percentage of positive cores <50%, and no more than 1 NCCN intermediate-risk factor)**DEFINITION:** NCCN intermediate risk factors include T2b-T2c, Gleason score 7, and PSA 10-20 ng/mL
- Patient has an estimated life expectancy of greater than or equal to 10 years, **and**
- Patient is a candidate for and is considering conservative therapy and yet and would be eligible for definitive
- therapy (radical prostatectomy, radiation therapy or brachytherapy), **and**
- Result will be used to determine treatment between definitive therapy and conservative management, **and**
- Patient has not received pelvic radiation or androgen deprivation therapy prior to the biopsy, **and**
- Patient is monitored for disease progression according to established standard of care.

### **Decipher**

Decipher is covered for men with prostate cancer with:

- Localized or biochemically recurrent adenocarcinoma of the prostate (i.e., no clinical evidence of metastasis), **and**
- Who have a life expectancy of greater than or equal to 10 years, **and**
- The assay is performed on formalin-fixed paraffin embedded (FFPE) prostate biopsy tissue with at least 0.5 mm of linear tumor diameter or FFPE tissue from a prostate resection specimen, **and**
- Result will be used to determine treatment according to established practice guidelines, **and**
- Patient has not received pelvic radiation or androgen deprivation therapy (ADT) prior to the biopsy or prostate resection specimen, **and**
- Patient is monitored for disease progression according to established standards of care, **and**
- If they are a candidate and are considering (or being considered for) at least 1 of the following:
  - Conservative management and yet would be eligible for definitive therapy (radical prostatectomy (RP), radiation or brachytherapy), **or**
  - Radiation therapy and yet would be eligible for the addition of a brachytherapy boost, **or**
  - Radiation therapy and yet would be eligible for the addition of short-term (ADT), **or**
  - Radiation therapy with short-term ADT yet would be eligible for the use of long-term ADT, **or**
  - Radiation with standard ADT yet would be eligible for systemic therapy intensification using next generation androgen signaling inhibitors or chemotherapy, **or**
  - Observation post-prostatectomy yet would be eligible for the addition of post-operative adjuvant radiotherapy, **or**
  - Salvage radiotherapy post-prostatectomy yet would be eligible for the addition of ADT.

### **OncotypeDX Prostate**

Oncotype DX Prostate is covered for the following indications. See detailed criteria below.

- A. Early stage, needle biopsy proven prostate cancer, OR**
- B. Favorable intermediate risk, needle biopsy proven prostate cancer**

**A. When used to determine which patients with early stage, needle biopsy proven prostate cancer, can be conservatively managed rather than treated with definitive surgery or radiation therapy and the following clinical conditions are met:**

- Needle biopsy with localized adenocarcinoma of prostate (no clinical evidence of metastasis or lymph node involvement), **and**
- Patient stage as defined by the one of the following:
  - Very Low Risk Disease (T1c AND Gleason Score = 6 AND PSA = 10 ng/mL)
  - Low Risk Disease (T1-T2a AND Gleason Score = 6 AND PSA = 10 ng/mL), **and**
- Patient has an estimated life expectancy of  $\geq 10$  years, **and**
- Patient is a candidate for and is considering conservative therapy and yet would be eligible for definitive therapy (radical prostatectomy, radiation therapy or brachytherapy), **and**
- Patient has not received pelvic radiation or androgen deprivation therapy prior to the biopsy, **and**
- Test is ordered by a physician certified in the Genomic Health™ Oncotype DX® Prostate Cancer Assay Certification and Training Registry (CTR), **and**
- Patient is monitored for disease progression according to active surveillance guidelines as recorded in NCCN guidelines.

**B. When used to determine which patients with favorable intermediate-risk, needle biopsy proven prostate cancer, can be conservatively managed rather than treated with definite surgery or radiation therapy and the following clinical conditions are met:**

- Needle biopsy with localized adenocarcinoma of prostate (no clinical evidence of metastasis or lymph node involvement), **and**
- FFPE prostate biopsy specimen with at least 0.5 mm of cancer length, and NCCN Favorable Intermediate-risk disease defined as:
  - Gleason Grade Group 2 (Gleason Sum 3+4=7), **and**
- Patient has an estimated life expectancy of greater than or equal to 10 years, **and**
- Patient is a candidate for and is considering conservative therapy and yet would be eligible for definitive therapy (radical prostatectomy, radiation therapy or brachytherapy), **and**
- Result will be used to determine treatment between definitive therapy and conservative management, **and**
- Patient has not received pelvic radiation or androgen deprivation therapy prior to the biopsy, **and**
- Patient is monitored for disease progression according to established standard of care.

### **OncotypeDX AR-V7 Nuclear Detect**

OncotypeDX AR-V7 Nuclear Detect assay is covered when the following clinical conditions are met:

- Patient has progressive mCRPC as defined by the Prostate Cancer Working Group 2 guidelines (a minimum of 2 rising prostate-specific antigen (PSA) levels 1 or more weeks apart, new lesions by bone scintigraphy, and/or new or enlarging soft tissue lesions by computed tomography (CT) or magnetic resonance imaging (MRI)).
- Patient has failed one androgen receptor signaling inhibitor (ARSi), (presently Enzalutamide (Xtandi), Apalutamide (Erleada), or Abiraterone (Zytiga) and future similar class drugs approved by the FDA).
- Patient is considered appropriate for treatment by their treating physician for the alternative ARSi as a single agent.
- Circulating tumor cells (CTC) with nuclear expression of AR-V7 protein have been assessed prior to initiation of therapy.

### **Commercial Products**

Unless otherwise noted, for any test filed with an Unlisted CPT code, the medical necessity criteria in the Genetic Testing Services policy would be used. Please see the Related Policies section.

## **PRIOR AUTHORIZATION**

### **Medicare Advantage Plans**

Prior authorization is required for Prolaris, Decipher, Oncotype DX Prostate, and OncotypeDX AR-V7 Nuclear Detect and is obtained via the online tool for participating providers.

### **Medicare Advantage Plans and Commercial Products**

There is no specific CPT coding for some testing referenced in this policy. Therefore, an Unlisted CPT code should be used (See Coding Section for details). All Unlisted genetic testing CPT codes require prior authorization to determine what service is being rendered and if the service is covered or not medically necessary. See the Related Policies section.

Prior authorization is required for Medicare Advantage Plans and recommended for Commercial products and is obtained via the online tool for participating providers. See the Related Policies section.

**Note:** Laboratories are not allowed to obtain clinical authorization or participate in the authorization process on behalf of the ordering physician. Only the ordering physician shall be involved in the authorization, appeal or other administrative processes related to prior authorization/medical necessity.

In no circumstance shall a laboratory or a physician/provider use a representative of a laboratory or anyone with a relationship to a laboratory and/or a third party to obtain authorization on behalf of the ordering physician, to facilitate any portion of the authorization process or any subsequent appeal of a claim where the authorization process was not followed and/or a denial for clinical appropriateness was issued, including any element of the preparation of necessary documentation of clinical appropriateness. If a laboratory or a third party is found to be supporting any portion of the authorization process, BCBSRI will deem the action a violation of this policy and severe action will be taken up to and including termination from the BCBSRI provider network. If a laboratory provides a laboratory service that has not been authorized, the service will be denied as the financial liability of the participating laboratory and may not be billed to the member.

## **POLICY STATEMENT**

### **Medicare Advantage Plans**

The following tests may be considered medically necessary when the medical criteria above are met:

- Prolaris
- Decipher
- Oncotype DX Prostate
- Oncotype DX AR-V7 Nuclear Detect

The following test is not covered as the evidence is insufficient to determine the effects of the technology on health outcomes:

- ProMark

### **Commercial Products**

The following tests are not medically necessary as the evidence is insufficient to determine the effects of the technology on health outcomes:

- Prolaris
- Decipher
- Oncotype DX Prostate
- Oncotype DX AR-V7 Nuclear Detect
- ProMark

## **COVERAGE**

Benefits may vary between groups/contracts. Please refer to the appropriate Benefit Booklet, Evidence of Coverage, or Subscriber Agreement for applicable genetic testing and not medically necessary/not covered benefits/coverage.

## BACKGROUND

Prostate cancer is the second most common noncutaneous cancer diagnosed among men in the United States. Autopsy studies in the era before the availability of prostate-specific antigen (PSA) screening have identified incidental cancerous foci in 30% of men 50 years of age, with incidence reaching 75% at age 80 years.

Localized prostate cancers may appear very similar clinically at diagnosis. However, they often exhibit diverse risk of progression that may not be captured by clinical risk categories (eg, D'Amico criteria) or prognostic tools based on clinical findings, including PSA titers, Gleason grade, or tumor stage. In studies of conservative management, the risk of localized disease progression based on prostate cancer–specific survival rates at 10 years may range from 15% to 20% to perhaps 27% at 20-year follow-up. Among older men (ages  $\geq$  70 years) with low-risk disease, comorbidities typically supervene as a cause of death; these men will die with prostate cancer present, rather than from cancer itself. Other very similar appearing low-risk tumors may progress unexpectedly rapidly, quickly disseminating and becoming incurable.

### Risk Stratification in Newly Diagnosed Disease

In the United States, most prostate cancers are clinically localized at diagnosis due in part to the widespread use of PSA testing. Clinicopathologic characteristics are used to stratify patients by risk based on the extent of the primary tumor (T category), nearby lymph node involvement (N category), metastasis (M category), PSA level and Gleason score. The National Comprehensive Cancer Network and American Urological Association risk categories for clinically localized prostate cancer are similar, derived from the D'Amico criteria and broadly include low-, intermediate-, or high-risk as follows as well as subcategories within these groups:

- Low: T1-T2a and Gleason score  $\leq$ 6/Gleason grade group 1 and PSA level  $\leq$ 10 ng/mL;
- Intermediate: T2b-T2c or Gleason score 3+4=7/Gleason grade group 2 or Gleason score 4+3=7/Gleason grade group 3 or PSA level 10-20 ng/mL;
- High: T3a or Gleason score 8/Gleason grade group 4 or Gleason score 9-10/Gleason grade group 5 or PSA level  $>$ 20 ng/mL.

Risk stratification is combined with patient age, life expectancy, and treatment preferences to make initial therapy decisions.

### Monitoring After Prostatectomy

All normal prostate tissue and tumor tissue is theoretically removed during radical prostatectomy (RP), so the serum level of PSA should be undetectable following RP. Detectable PSA post-RP indicates residual prostate tissue and presumably persistent or recurrent disease. PSA is serially measured following RP to detect early disease recurrence. The National Comprehensive Cancer Network recommends monitoring serum PSA every 6 to 12 months for the first 5 years and annually thereafter. Many recurrences following RP can be successfully treated. The American Urological Association has recommended that biochemical recurrence be defined as a serum PSA of 0.2 ng/mL or higher, which is confirmed by the second determination with a PSA level of 0.2 ng/mL or higher.

### Castration-Resistant Prostate Cancer

Androgen deprivation therapy (ADT) is generally the initial treatment for patients with advanced prostate cancer. ADT can produce tumor response and improve quality of life but most patients will eventually progress on ADT. Disease that progresses while the patient is on ADT is referred to as castration-resistant prostate cancer. After progression, continued ADT is generally used in conjunction with other treatments. Androgen pathways are important in the progression of castration-resistant prostate cancer. Several drugs have been developed that either inhibit enzymes involved in androgen production or inhibit the androgen receptor, such as abiraterone and enzalutamide. Taxane chemotherapy with docetaxel or cabazitaxel may also be used after progression. Immunotherapy (sipuleucel-T) or radium 223 are options for select men.

Clinical laboratories may develop and validate tests in-house and market them as a laboratory service; laboratory-developed tests must meet the general regulatory standards of the Clinical Laboratory Improvement Amendments (CLIA). Prolaris® (Myriad Genetics), Oncotype DX® Prostate and Oncotype



DX AR-V7 Nuclear Detect (Genomic Health), Decipher® gene expression profiling test (Decipher Corp), and the ProMark™ protein biomarker test (Metamark Genetics) are available under the auspices of CLIA. Laboratories that offer laboratory-developed tests must be licensed by CLIA for high-complexity testing. To date, the U.S. Food and Drug Administration (FDA) has chosen not to require any regulatory review of this test.

### **Prolaris**

Prolaris is an RNA based assay measuring the expression of 31 cell cycle progression (CCP) genes and 15 “housekeeping” genes that act as internal controls and normalization standards in each patient sample. The assay is performed on formalin fixed paraffin embedded (FFPE) prostate cancer blocks. The assay results are reported as a numerical score along with accompanying interpretive information.

### **Medicare Advantage Plans**

The potential usefulness of this test is that it allows physicians to determine which patients with early prostate cancer are candidates for active surveillance or observation and are more likely to have a good outcome without needing to receive definitive treatment.

The clinical performance of this assay was assessed in several retrospective validation studies. These include two British cohorts of men diagnosed with prostate cancer on biopsy and then treated conservatively; and an additional cohort of men diagnosed by transurethral resection of the prostate (TURP) and conservatively managed. Further validation was performed in various other cohorts including men who underwent radical prostatectomy, and men treated with definitive radiotherapy. The Prolaris cell cycle progression score (CCP) was found to be an independent and more robust prognostic factor for disease related death than traditional clinicopathologic factors although disease stage and Gleason score consistently portended a more negative prognostic picture.

### **Commercial Products**

For individuals who have low- or intermediate-risk clinically localized untreated prostate cancer who receive Prolaris, the evidence includes retrospective cohort studies of clinical validity using archived samples in patients of mixed risk categories. Relevant outcomes include overall survival, disease-specific survival, quality of life, and treatment-related morbidity. For the low-risk group, the Prostate Testing for Cancer and Treatment ( ProtecT) trial showed 99% ten-year disease-specific survival in mostly low-risk patients receiving active surveillance. The low mortality rate estimated with tight precision makes it unlikely that a test intended to identify a subgroup of low-risk men with a net benefit from immediate treatment instead of active surveillance would find such a group. For the intermediate-risk group, the evidence of improved clinical validity or prognostic accuracy for prostate cancer death using Prolaris Cell Cycle Progression score in patients managed conservatively after needle biopsy has shown some improvement in areas under the receiver operating characteristic curve over clinicopathologic risk stratification tools. There is limited indirect evidence for potential clinical utility. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals who have localized prostate cancer treated with RP who receive Prolaris, the evidence includes retrospective cohort studies of clinical validity using archived samples. Relevant outcomes include overall survival, disease-specific survival, quality of life, and treatment-related morbidity. Evidence of improved clinical validity or prognostic accuracy for prostate cancer death using the Prolaris Cell Cycle Progression score in patients after prostatectomy has shown some improvement in areas under the receiver operating characteristic curve over clinicopathologic risk stratification tools. The evidence is insufficient to determine the effects of the technology on health outcomes.

### **Decipher Prostate Cancer Classifier Assay**

The Decipher prostate cancer assay, a 22-biomarker expression signature using oligonucleotide microarray technology, interrogates 1.4 million RNAs extracted from a formalin-fixed paraffin embedded (FFPE) tissue block of the index lesion (defined by highest tumor stage or histological Gleason grade) from the RP specimen, or of the diagnostic biopsy core (defined by the highest Gleason grade). The biomarkers that

comprise the Decipher classifier include cell cycle progression, androgen signaling, cell adhesion, tumor cell motility, migration and immune evasion functions.

### **Medicare Advantage Plans**

In the treatment of prostate cancer, a number of treatment approaches have shown potential benefits for survival, but also significant adverse events. Therefore, the risk of a patient having an unfavorable outcome due to prostate cancer within the patient's expected lifetime is at the core of the management of prostate cancer. Patients at a higher risk are recommended to have a greater intensity of treatment. For the treatment of localized prostate cancer there is a well-established risk stratification scheme based on clinical and pathological factors, though even within a single risk stratum there is significant variability, which Decipher® has shown the ability to further stratify. There are also numerous potential treatment options of varying levels of intensity with varying severities of side effects, so the potential benefit of treatment, which is heavily driven by risk stratum, must be weighed against the downsides of therapy. For patients with recurrent or metastatic disease there are also a number of effective treatment options of varying intensity, also associated with varying severities of adverse events. While there are no randomized controlled trials of outcomes using the Decipher® test, numerous studies from different institutions have all had similar and consistent findings, providing evidence that this test accurately risk stratifies patients based on genetic information and accurately predicts risk of biochemical recurrence, metastatic disease, or prostate-cancer specific mortality. Given that existing treatment paradigms are heavily reliant upon risk assessment, the ability to accurately risk stratify has potential utility in the management of prostate cancer. As such, this test provides clinically actionable incremental information that fits into existing evidence-based or consensus-recommended prostate cancer treatment paradigms.

### **Commercial Products**

For individuals who have localized prostate cancer who are treated with RP and who receive the Decipher prostate cancer classifier, the evidence includes a study of analytic validity, prospective and retrospective studies of clinical validity using overlapping archived samples, decision-curve analyses examining indirect evidence of clinical utility, and prospective decision-impact studies without pathology or clinical outcomes. Relevant outcomes include overall survival, disease-specific survival, quality of life, and treatment-related morbidity. The clinical validity of the Decipher genomic classifier has been evaluated in samples of patients with high-risk prostate cancer undergoing different interventions following RP. Studies reported some incremental improvement in discrimination. However, it is unclear whether there is consistently improved reclassification—particularly to higher risk categories—or whether the test could be used to predict which men will benefit from radiotherapy. The evidence is insufficient to determine the effects of the technology on health outcomes.

### **Oncotype DX Prostate**

Oncotype DX® Prostate Cancer Assay is prostate biopsy-based 17-gene RT-PCR assay, representing four molecular pathways (androgen signaling, cellular organization, stromal response and proliferation), that provides a biologic measure of cancer aggressiveness. The assay is indicated for men who are considered candidates for active surveillance (AS) (those with NCCN® very low, low and favorable intermediate risk prostate cancer). The assay is designed to inform decisions between AS and immediate treatment.

### **Medicare Advantage Plans**

The potential usefulness of this test is that it allows physicians to determine which patients with early prostate cancer are candidates for active surveillance and are more likely to have a good outcome without needing to receive definitive treatment.

Studies demonstrate that in men with NCCN very low-, low-, or intermediate-risk prostate cancer who were potential candidates for AS, Oncotype DX was prospectively validated as a biopsy-based predictor of adverse pathology, biochemical recurrence and metastasis, thus establishing the assay as a robust and independent measure of prostate cancer aggressiveness.

### **Commercial Products**

For individuals who have low- or intermediate-risk clinically localized untreated prostate cancer who receive Oncotype DX Prostate, the evidence includes case-cohort and retrospective cohort studies of clinical validity using archived samples in patients of mixed risk categories, and a decision-curve analysis examining indirect evidence of clinical utility. Relevant outcomes include overall survival, disease-specific survival, quality of life, and treatment-related morbidity. Evidence for clinical validity and potential clinical utility of Oncotype DX Prostate in patients with clinically localized prostate cancer derives from a study predicting adverse pathology after RP. The validity of using tumor pathology as a surrogate for risk of progression and cancer-specific death is unclear. It is also unclear whether results from an RP population can be generalized to an active surveillance population. The evidence is insufficient to determine the effects of the technology on health outcomes.

### **Oncotype DX AR-V7 Nuclear Detect**

Oncotype DX AR-V7 Nuclear Detect test is a commercially available, circulating tumor cell (CTC) based, liquid biopsy test. The test detects patients with CTCs who have nuclear expression of the AR-V7 truncated protein and provides information that can help guide treatment selection in patients with metastatic castrate resistant prostate cancer (mCRPC).

### **Medicare Advantage Plans**

Men with metastatic castration resistant prostate cancer (mCRPC) have multiple life extending, FDA-approved therapeutics options. However, there is no clear consensus on the therapeutic sequencing after initial exposure to an androgen receptor signaling inhibitor (ARSi), such as apalutamide, abiraterone or enzalutamide. The response rate for a second ARSi, Abiraterone after Enzalutamide, or Enzalutamide after Abiraterone is lower than the initial exposure. Therefore, the most common clinical decision focuses on whether to start a second ARSi or taxane chemotherapy. It is therefore important to identify patients who will not respond to a 2nd ARSi in order to 1) avoid giving an ineffective therapy, and 2) delaying giving a more effective therapy, such as taxane chemotherapy, taxane combination therapies, Radium-223, PARP inhibitors, and platinum chemotherapy.

AR-V7 protein results from alternative androgen receptor (AR) mRNA splicing, which produces a constitutively active receptor that is associated with resistance to ARSi such as abiraterone and enzalutamide. A growing body of evidence suggests that patients with ARV7 positive mCRPC do not benefit from ARSi therapy but may respond to taxanes, such as docetaxel.<sup>3-5</sup> Supporting observations include that 1) AR-V7 positivity is associated with resistance to androgen receptor-targeted therapies<sup>4</sup>; 2) taxanes are equally effective in AR-V7 –positive and AR-V7–negative mCRPC patients<sup>3,5</sup> ; and 3) AR-V7 status may change during therapy. For these reasons, the National Comprehensive Cancer Network (NCCN) suggests that AR-V7 is a biomarker that may help guide therapy in mCRPC.

AR signaling requires that the AR transcriptional elements bind to DNA within the nucleus of the cancer cell. Therefore, the nuclear localization of the AR-V7 truncated protein may improve the clinical specificity of predicting ARSi resistance.<sup>8</sup> Analysis of AR-V7 localization scoring guides has demonstrated that only nuclear AR-V7 protein expression improves the clinical specificity of predicting ARSi resistance, and importantly, is associated with improved overall survival with taxane chemotherapy.

### **Commercial Products**

For individuals who have metastatic castration-resistant prostate cancer who receive the Oncotype DX AR-V7 Nuclear Detect, the evidence includes a retrospective cohort study of clinical validity using archived samples, and no studies of clinical utility. Relevant outcomes include overall survival, diseasespecific survival, quality of life, and treatment-related morbidity. Current evidence does not support improved outcomes with Oncotype DX AR-V7 Nuclear Detect, given that only a single clinical validity study, meeting inclusion criteria was available. The evidence is insufficient to determine the effects of the technology on health outcomes.

### **ProMark Protein Biomarker Test**

The ProMark assay includes 8 biomarkers that predict prostate pathology aggressiveness and lethal outcomes: DERL1, PDSS2, pS6, YBX1, HSPA9, FUS, SMAD4, and CUL2. The assay results are combined using



predefined coefficients for each marker from a logistic regression model to calculate a risk score. The risk score is a continuous number between 0 and 1, which estimates the probability of “non–GS 6” pathology.

### **Medicare Advantage Plans and Commercial Products**

For individuals who have low- or intermediate-risk clinically localized untreated prostate cancer who receive the ProMark protein biomarker test, the evidence includes a retrospective cohort study of clinical validity using archived samples and no studies of clinical utility. Relevant outcomes include overall survival, disease-specific survival, quality of life, and treatment-related morbidity. Current evidence does not support improved outcomes with ProMark given that only a single clinical validity study is available. The evidence is insufficient to determine the effects of the technology on health outcomes.

### **CODING**

The following CPT codes may be medically necessary for Medicare Advantage Plans when the medical criteria above is met and is not medically necessary for Commercial Products.

This code can be used for the Prolaris Assay.

**81541** Oncology (prostate), mRNA gene expression profiling by real-time RT-PCR of 46 genes (31 content and 15 housekeeping), utilizing formalin-fixed paraffin-embedded tissue, algorithm reported as a disease-specific mortality risk score

This code can be used for Decipher Prostate.

**81542** Oncology (prostate), mRNA, microarray gene expression profiling of 22 content genes, utilizing formalin-fixed paraffin-embedded tissue, algorithm reported as metastasis risk score

This code can be used for the Oncotype DX® Prostate.

**0047U** Oncology (prostate), mRNA, gene expression profiling by real-time RT-PCR of 17 genes (12 content and 5 housekeeping), utilizing formalin-fixed paraffin-embedded tissue, algorithm reported as a risk score

The following Unlisted CPT code requires prior authorization for Medicare Advantage Plans and Commercial Products. The code can be used for any test identified in this policy that does not have a specific CPT code.

**81479** Unlisted molecular pathology procedure

### **RELATED POLICIES**

Genetic Testing Services

Proprietary Laboratory Analyses (PLA)

### **PUBLISHED**

Provider Update, July 2021

Provider Update, May 2020

Provider Update, August 2019

Provider Update, November 2017

Provider Update, September 2016

### **REFERENCES**

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4. Centers for Medicare and Medicaid Services (CMS). Local Coverage Determination (LCD): MolDX: ONCOTYPE DX® Genomic Prostate Score for Men with Favorable Intermediate Risk Prostate Cancer (L37305)Centers for Medicare and Medicaid Services (CMS). Local Coverage Article: Billing and Coding: MolDX: Genomic Health™ ONCOTYPE DX® Prostate Cancer Assay (A56371)

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8. Centers for Medicare and Medicaid Services (CMS). Local Coverage Article: Billing and Coding: MolDX: PROLARIS™ Prostate Cancer Genomic Assay (A57511)
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