Medical Coverage Policy | Gene Expression Profiling and Protein Biomarkers for Prostate Cancer Management (formerly: Prostate Cancer Genomic Assays)

EFFECTIVE DATE: 10|15|2015
POLICY LAST UPDATED: 06|21|2016

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 regarding active surveillance versus therapeutic intervention, or after radical prostatectomy (RP) to guide radiotherapy use.

Prolaris® prostate cancer assay, developed by Myriad, Salt Lake City, UT, and Oncotype DX® Prostate Cancer Assay (Genomic Health™) are used to 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.

MEDICAL CRITERIA

BlueCHiP for Medicare

The Prolaris and Oncotype DX prostate cancer assays are covered only when 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 **AND** <3 prostate cores with tumor **AND** ≤ 50% cancer in any core **AND** PSA density of < 0.15 ng/mL/g) **OR**
  - Low-risk disease (T1-T2a **AND** Gleason Score ≤ 6 **AND** PSA ≤ 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 would be eligible for definitive therapy (radical prostectomy, 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 a specific Certification and Training Registry (CTR)
  - For Prolaris, ordering physician must be certified in the Myriad Prolaris™ Certification and Training Registry (CTR)
  - For Oncotype DX, ordering physician must be certified in the Genomic Health™ Oncotype DX Prostate Cancer Assay Certification and Training Registry (CTR)

Commercial Products

Not applicable

PRIOR AUTHORIZATION

BlueCHiP for Medicare and Commercial Products

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

POLICY STATEMENT

BlueCHiP for Medicare

The Prolaris and Oncotype DX prostate cancer assays will be considered medically necessary when the medical criteria listed above are met.

The Promark and Decipher prostate cancer assays are considered not medically necessary because there is insufficient peer-reviewed literature proving the efficacy of the service.

Commercial Products
Gene expression analysis and protein biomarker to guide management of prostate cancer, including those brand name tests identified in this policy, are considered not medically necessary because direct evidence is insufficient to establish the analytical and clinical validity, or the clinical utility of the services.

COVERAGE

Benefits may vary between groups/contracts. Please refer to the appropriate Benefit Booklet, Evidence of Coverage, or Subscriber Agreement for limitations of benefits/coverage for laboratory tests or when services are not medically necessary.

BACKGROUND

American Urological Association guidelines suggest patients with low- and intermediate-risk disease have the option of "active surveillance," taking into account patient age, patient preferences, and health conditions related to urinary, sexual, and bowel function. With this approach the patient will forgo immediate therapy and continue regular monitoring until signs or symptoms of disease progression are evident, at which point curative treatment is instituted.

Given the unpredictable behavior of early prostate cancer, additional prognostic methods to biologically stratify this disease are under investigation. These include gene expression profiling, which refers to analysis of mRNA expression levels of many genes simultaneously in a tumor specimen, and protein biomarkers.

Two gene expression profiling tests and 1 protein biomarker test are intended to biologically stratify prostate cancers diagnosed on prostate needle biopsy: Prolaris (Myriad Genetics, Salt Lake City, UT) and Oncotype Dx Prostate Cancer Assay (Genomic Health, Redwood City, CA) are gene expression profiling tests that use archived tumor specimens as the mRNA source, reverse transcriptase polymerase chain reaction (RT-PCR) amplification, and the TaqMan low-density array platform (Applied Biosystems, Foster City, CA).

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. Prolaris is used to quantify expression levels of all of the genes to generate a CCP score.

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- and low-risk prostate cancer). The assay is designed to inform decisions between AS and immediate treatment. Oncotype Dx Prostate is used to quantify expression levels of 12 cancer-related and 5 reference genes to generate a Genomic Prostate Score (GPS).

A protein biomarker test, Promark™ (Metamark Genetics, Cambridge, MA), is an automated quantitative imaging method to measure protein biomarkers by immunofluorescent staining in defined areas in intact formalin-fixed paraffin-embedded biopsy tissue, in order to provide independent prognostic information to aid in the stratification of patients with prostate cancer to active surveillance or therapy. There is insufficient evidence to support improved outcomes with ProMark™ given that only a single clinical validity study was available.

Decipher® (GenomeDx Biosciences, Vancouver, BC) is a tissue-based tumor 22-biomarker gene expression profile test that is intended to guide the use of radiation after RP. The Decipher test classifies patients as low risk, who can delay or defer radiation after prostatectomy, or high risk, as those who would potentially benefit from early radiation. The gene expression classifier is a continuous risk score between 0 and 1, with higher risk scores indicating a greater probability of developing metastasis. Current evidence is insufficient to demonstrate improved outcomes, and therefore, the test is considered not medically necessary.

Many men do not need treatment for their prostate cancer in as much as their prognosis is excellent even without treatment. However, physicians and patients struggle to know who can safely be observed versus the subgroup that needs more aggressive treatment to achieve cure, and recognize that definitive treatment for localized prostate cancer can have lifelong morbidities.

BlueCHiP for Medicare
The Prolaris cell cycle progression (CCP) score 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. The potential usefulness of the Prolaris CCP 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 potential usefulness of the Oncotype DX prostate cancer assay 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.

Commercial Products
Given the limited evidence for clinical utility of Prolaris, Oncotype DX Prostate, ProMark and Decipher, the evidence is insufficient to determine the effects of these technologies on health outcomes, and all are therefore considered not medically necessary.

CODING

BlueCHiP for Medicare and Commercial Products
There is not a specific CPT code for this testing. Therefore, the unlisted molecular pathology procedure code 81479 should be used.

The following CPT code requires prior authorization.
81479

RELATED POLICIES

Preauthorization via Web-Based Tool for Genetic Testing

PUBLISHED

Provider Update, September 2016
Provider Update, December 2015

REFERENCES

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