Procedures addressed

The inclusion of any procedure code in this table does not imply that the code is under management or requires prior authorization. Refer to the specific Health Plan’s procedure code list for management requirements.

<table>
<thead>
<tr>
<th>Procedure addressed by this guideline</th>
<th>Procedure code</th>
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<tbody>
<tr>
<td>SelectMDx</td>
<td>81479</td>
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</table>

What is SelectMDx

Definition

SelectMDx is a proprietary test that is designed to identify an individual’s risk of prostate cancer without the need for a biopsy.

- Prostate cancer is the most common cancer among men, with over 200,000 new cases identified each year in the United States. The median age at diagnosis is 66 years. Older men are more likely to be affected than younger men, and African American men have higher rates compared to men of other ethnic backgrounds.
- Screening programs for prostate cancer allow for its early detection. Screening is typically performed by prostate-specific antigen (PSA) test and digital rectal examination (DRE).
- Diagnosis is confirmed by prostate biopsy. Biopsy is typically performed by collection of approximately 12 needle biopsy cores.
- Initial biopsies only detect 65-77% of prostate cancers, and repeat biopsies are frequently performed. The false negative rate of biopsy may be as high as 25%.

Test information

- SelectMDx is a urine based assay that measures mRNA levels of DLX1 and HOXC6 to determine an individual’s risk of prostate cancer. KLK3 expression is used as an internal reference.
  - Higher levels of DLX1 and HOXC6 are associated with an increased risk of prostate cancer.
- This test is performed on first-void urine samples in patients post-digital rectal exam.
- Individuals with a high risk score on SelectMDx may need a biopsy.
• Individuals with a low risk score on this test may be able to avoid a biopsy.\textsuperscript{10}

Guidelines and evidence

National Comprehensive Cancer Network

The National Comprehensive Cancer Network (NCCN, 2019) considers SelectMDx to be investigational, citing lack of additional validation of the scoring model in independent populations/cohorts and lack of long-term follow-up in the studied population.\textsuperscript{6}

American Urological Association

The American Urological Association issued a Guideline Statement (2013, reaffirmed 2018) and stated:\textsuperscript{11}

• “While the benefits of PSA-based prostate cancer screening have been evaluated in randomized-controlled trials, the literature supporting the efficacy of digital rectal exam (DRE), PSA derivatives and isoforms (e.g. free PSA, -2proPSA, prostate health index, hK2, PSA velocity or PSA doubling time) and novel urinary markers and biomarkers (e.g. PCA3) for screening with the goal of reducing prostate cancer mortality provide limited evidence to draw conclusions.”

Literature Review

• 2 clinical studies were identified for SelectMDx, which detail the results of a total of 3 studies describing the development and initial clinical validation of SelectMDx. One of the studies detailed the process with which the genetic markers utilized in the test were discovered, and the second study described the development of a risk score that incorporates the genetic markers with traditional risk factors, and the subsequent clinical validation of the risk score.\textsuperscript{12,13}

• Though the initial results are encouraging, there is an overall paucity of sufficient evidence currently available in the peer-reviewed literature to evaluate the clinical utility of this test. Only two studies have been published to date regarding the performance of SelectMDx. Of the three cohorts studied among the two publications, the first two were utilized to establish analytical validity, and the third was utilized for clinical validity. Furthermore, studies were conducted in the Netherlands; thus the results are not generalizable to men living in other countries, including the United States.\textsuperscript{1,2}

• Given that most of the results were focused on test validation, SelectMDx needs to be tested in larger and heterogeneous populations in diverse clinical settings to further assess the clinical validity and clinical utility of this test.\textsuperscript{1,2}
Criteria

• This test is considered investigational and/or experimental.
  
  o Investigational and experimental (I&E) molecular and genomic (MolGen) tests refer to assays involving chromosomes, DNA, RNA, or gene products that have insufficient data to determine the net health impact, which typically means there is insufficient data to support that a test accurately assesses the outcome of interest (analytical and clinical validity), significantly improves health outcomes (clinical utility), and/or performs better than an existing standard of care medical management option. Such tests are also not generally accepted as standard of care in the evaluation or management of a particular condition.
  
  o In the case of MolGen testing, FDA clearance is not a reliable standard given the number of laboratory developed tests that currently fall outside of FDA oversight and FDA clearance often does not assess clinical utility.

References


10. SelectMDx for Prostate Cancer. SelectMdx website. Available at: http://mdxhealth.com/selectmdx-prostate-cancer
