Policy: MP265  
Section: Medical Benefit Policy  
Subject: Proteomic Serum Analysis

I. Policy: Proteomic Serum Analysis

II. Purpose/Objective:  
To provide a policy of coverage regarding Proteomic Serum Analysis

III. Responsibility:  
A. Medical Directors  
B. Medical Management  

IV. Required Definitions
   1. Attachment – a supporting document that is developed and maintained by the policy writer or  
      department requiring/authoring the policy.  
   2. Exhibit – a supporting document developed and maintained in a department other than the department  
      requiring/authoring the policy.  
   3. Devised – the date the policy was implemented.  
   4. Revised – the date of every revision to the policy, including typographical and grammatical changes.  
   5. Reviewed – the date documenting the annual review if the policy has no revisions necessary.

V. Additional Definitions
Medical Necessity or Medically Necessary means Covered Services rendered by a Health Care Provider that the Plan determines are:
   a. appropriate for the symptoms and diagnosis or treatment of the Member’s condition, illness, disease or  
      injury;  
   b. provided for the diagnosis, and the direct care and treatment of the Member’s condition, illness disease or  
      injury;  
   c. in accordance with current standards of good medical treatment practiced by the general medical  
      community.  
   d. not primarily for the convenience of the Member, or the Member’s Health Care Provider; and  
   e. the most appropriate source or level of service that can safely be provided to the Member.  When applied  
      to hospitalization, this further means that the Member requires acute care as an inpatient due to the nature  
      of the services rendered or the Member’s condition, and the Member cannot receive safe or adequate care  
      as an outpatient.

Medicaid Business Segment
Medical Necessity shall mean a service or benefit that is compensable under the Medical Assistance Program and if it meets  
any one of the following standards:
   (i) The service or benefit will, or is reasonably expected to, prevent the onset of an illness, condition or  
       disability.  
   (ii) The service or benefit will, or is reasonably expected to, reduce or ameliorate the physical, mental or  
       development effects of an illness, condition, injury or disability.  
   (iii) The service or benefit will assist the Member to achieve or maintain maximum functional
capacity in performing daily activities, taking into account both the functional capacity of the Member and those functional capacities that are appropriate for members of the same age.

DESCRIPTION:
OvaCheck®, developed by Correlogic Systems Inc, is a serum-based test that uses proteomics for the early detection of ovarian cancer. The test is based on proteomic patterns detected in the serum, which are then further analyzed with the use of a mass spectrometer to profile a population of proteins based on their size and electrical charge. This type of analysis contains thousands of data points, which undergo further computer analysis using artificial intelligence-based algorithms to identify a pattern that is consistent with ovarian cancer.

OVA1® (Vermillion, Inc) is a blood test to help assess the likelihood an ovarian mass is malignant prior to a planned surgery. In conjunction with clinical evaluation of members age 18 and older who have an ovarian mass and planned surgery, OVA1 may help triage according to probability of malignancy. OVA1® measures the levels of five proteins found in the blood and then uses a proprietary software to calculate a single score. Risk is measured using a 0-10 scale versus predetermined cut-off points. Members who are pre-menopausal have a cut off of 5.0 whereas postmenopausal members have a 4.4 cutoff.

VeriStrat (Biodesix Inc) test uses mass spectrometry and a proprietary algorithm to analyze pretreatment plasma or serum to predict the benefit of single-agent chemotherapy or EGFR Tyrosine Kinase Inhibitor treatment in patients with non-small cell lung cancer with an unknown or wild-type variant of EGFR, or to identify patients with particularly aggressive disease. The NCCN recommends that proteomic testing be conducted in patients with NSCLC and wild-type or unknown EGFR status, and that a “poor” assignment indicates that the patient should not be treated with erlotinib in the second-line setting.

INDICATIONS:

VeriStrat®

Proteomic testing (VeriStrat®) is considered medically necessary for members with advanced non-small cell lung cancer (NSCLC) when ALL of the following criteria are met:

- The tumor is wild-type EGFR or the EGFR status is unknown;
- The member has failed first-line systemic chemotherapy; AND
- The test results will assist in informing whether to proceed with erlotinib (Tarceva®) therapy.

Medicare Business Segment:
In compliance with Novitas LCD L35396 the OVA1 proteomic assay will be covered according to the FDA label. OVA1 is intended only for members, 18 years and older, who are already selected for surgery because of their pelvic mass. It is not intended for ovarian cancer screening or for a definitive diagnosis of ovarian cancer.

In compliance with Novitas LCD L35396 the Risk of Ovarian Malignancy Algorithm (ROMA™) serum test will be covered to aid in assessing whether a premenopausal or postmenopausal woman who presents with an ovarian adnexal mass is at high or low likelihood of finding malignancy at surgery. ROMA™ will be considered reasonable and necessary for women who meet the following FDA labeling criteria:

- Over age 18;
- Ovarian adnexal mass present for which surgery is planned; and,
- Not yet referred to an oncologist.

In compliance with Novitas LCD L35396 the Veristrat proteomic assay will be covered to predict the benefit of single-agent chemotherapy or EGFR Tyrosine Kinase Inhibitor treatment in patients with non-small cell lung cancer with an unknown or wild-type variant of EGFR, or to identify patients with particularly aggressive disease.

EXCLUSIONS:
Unless otherwise mandated, the Plan does NOT provide coverage for Proteomic Serum analysis to Identify Ovarian Cancer because it is considered experimental, investigational or unproven. There is insufficient evidence in the peer-reviewed published medical literature to establish the effectiveness of this test on health outcomes when compared to established tests or technologies.

Any use of VeriStrat® serum proteomic testing except as noted above is considered experimental/investigational or unproven and NOT COVERED.
Note: A complete description of the process by which a given technology or service is evaluated and determined to be experimental, investigational or unproven is outlined in MP 15 - Experimental Investigational or Unproven Services or Treatment.

CODING ASSOCIATED WITH: Proteomic Serum Analysis

The following codes are included below for informational purposes and may not be all inclusive. Inclusion of a procedure or device code(s) does not constitute or imply coverage nor does it imply or guarantee provider reimbursement. Coverage is determined by the member specific benefit plan document and any applicable laws regarding coverage of specific services. Please note that per Medicare coverage rules, only specific CPT/HCPCS Codes may be covered for the Medicare Business Segment. Please consult the CMS website at www.cms.gov or the local Medicare Administrative Carrier (MAC) for more information on Medicare coverage and coding requirements.

81500  Oncology (ovarian), biochemical assays of two proteins (CA-125 and HE4), utilizing serum, with menopausal status, algorithm reported as a risk score (This code is for reporting the ROMA™ test)

81503  Oncology (ovarian) biochemical assays of five proteins (CA-125, apolipoprotein A1, beta-2 microglobulin, transferrin, and pre-albumin) utilizing serum, algorithm reported as a risk score.

81538  Oncology (lung) mass spectrometric 8-protein signature, including amyloid A, utilizing serum, prognostic and predictive algorithm reported as good versus poor overall survival.


LINE OF BUSINESS:
Eligibility and contract specific benefit limitations and/or exclusions will apply. Coverage statements found in the line of business specific benefit document will supersede this policy. For Medicare, applicable LCD’s and NCD’s will supersede this policy. For PA Medicaid Business segment, this policy applies as written.

REFERENCES:

American Cancer Society. Ovarian Cancer Overview. 2017


Boylan KLM, et al. Quantitative proteomic analysis by iTRAQ® for the identification of candidate biomarkers in ovarian cancer serum Proteome Science 2010, 8:31

Petricoin EF, Use of proteomic patterns in serum to identify ovarian cancer. Lancet 2002 Feb 16;359(9306):572-7


Novitas Solutions Inc. A52986 Biomarkers in Oncology https://www.cms.gov/medicare-coverage-database/details/article-details.aspx?articleId=52986&ver=52&Date=06%2f09%2f2016&DocID=A52986&bc=hAAAAAgAAAAAAA%3d%3d


College of American Pathologists, International Association for the Study of Lung Cancer, Association for Molecular Pathology. Molecular testing guidelines for selection of lung cancer patients for EGFR and ALK tyrosine kinase inhibitors. 2013


This policy will be revised as necessary and reviewed no less than annually.

Devised: 3/27/2012

Revised: 8/13 (add Medicare coverage), 7/16 (Gender Language); 10/16 (added Veristrat) 3/18 (added ROMA)

Reviewed: 4/13, 10/14; 10/15, 9/17