

**Policy: MP341**

**Section: Medical Benefit Policy**

**Subject: TissueCypher® Barrett's Esophagus Assay**

**Applicable line of business:**

<b>Commercial</b>	<b>x</b>	<b>Medicaid</b>	<b>x</b>
<b>Medicare</b>	<b>x</b>	<b>ACA</b>	<b>x</b>
<b>CHIP</b>	<b>x</b>		

**I. Policy:** TissueCypher® Barrett's Esophagus Assay

**II. Purpose/Objective:**

To provide a policy of coverage regarding TissueCypher® Barrett's Esophagus Assay

**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.

**Commercial**

Geisinger Health Plan may refer collectively to health care coverage sponsors Geisinger Health Plan, Geisinger Quality Options, Inc., and Geisinger Indemnity Insurance Company, unless otherwise noted. Geisinger Health Plan is part of Geisinger, an integrated health care delivery and coverage organization.

**Medicare**

Geisinger Gold Medicare Advantage HMO, PPO, and HMO D-SNP plans are offered by Geisinger Health Plan/Geisinger Indemnity Insurance Company, health plans with a Medicare contract. Continued enrollment in Geisinger Gold depends on contract renewal. Geisinger Health Plan/Geisinger Indemnity Insurance Company are part of Geisinger, an integrated health care delivery and coverage organization.

**CHIP**

Geisinger Health Plan Kids (GHP Kids) is a Children's Health Insurance Program (CHIP) offered by Geisinger Health Plan in conjunction with the Pennsylvania Department of Human Services (DHS). Geisinger Health Plan is part of Geisinger, an integrated health care delivery and coverage organization.

**Medicaid**

Geisinger Health Plan Family (GHP Family) is a Medical Assistance (Medicaid) insurance program offered by Geisinger Health Plan in conjunction with the Pennsylvania Department of Human Services (DHS). Geisinger Health Plan is part of Geisinger, an integrated health care delivery and coverage organization.

## 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

Medically Necessary — A service, item, procedure, or level of care that is necessary for the proper treatment or management of an illness, injury, or disability is one that:

- Will, or is reasonably expected to, prevent the onset of an illness, condition, injury or disability.
- Will, or is reasonably expected to, reduce or ameliorate the physical, mental or developmental effects of an illness, condition, injury or disability.
- 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:

The TissueCypher® Barrett's Esophagus Assay is a laboratory test to help identify individuals who are appropriate candidates for minimally invasive endoscopic eradication therapy by predicting development of high-grade dysplasia and esophageal adenocarcinoma in patients with Barrett's esophagus. This multi-analyte assay and analysis evaluates the expression of nine specific protein-based biomarkers and morphology-based biomarkers in the context of tissue architecture in esophageal biopsies obtained during an upper GI endoscopy and reports the probability of progression to esophageal adenocarcinoma within five years of the endoscopy.

### INDICATIONS:

TissueCypher is considered medically necessary for the evaluation of esophageal pinch biopsies (or endoscopic mucosal resection (EMR) specimens) of patients confirmed to have Barrett's esophagus with histology of no dysplasia, indefinite for dysplasia, or low-grade dysplasia.

### EXCLUSIONS:

All of the following services are considered **unproven**. There is insufficient evidence in the peer-reviewed published medical literature to establish the safety and effectiveness of these services on health outcomes when compared to established treatments or technologies.

- esophageal microbiota evaluation for detection of Barrett's Esophagus
- Evaluation of mitochondrial DNA deletions for detection of Barrett's Esophagus
- SOX2 expression testing for prediction of neoplastic progression in Barrett's Esophagus
- Use of markers of intestinal phenotype (CDX2, Das-1, Hep Par 1, SOX9, and villin)
- Use of mucin glycoprotein immunostains
- Use of mutation analysis for risk assessment and diagnosis of Barrett's Esophagus

### Medicaid Business Segment:

Any requests for services, that do not meet criteria set in the PARP, may be evaluated on a case by case basis.

**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: TissueCypher® Barrett's Esophagus Assay**

*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](http://www.cms.gov) or the local Medicare Administrative Carrier (MAC) for more information on Medicare coverage and coding requirements*

0108U Gastroenterology (Barrett's esophagus), whole slide digital imaging, including morphometric analysis, computer assisted quantitative immunolabeling of 9 protein biomarkers (p16, AMACR, p53, CD68, COX 2, CD45RO, HIF1a, HER 2, K20) and morphology, formalin fixed paraffin embedded tissue, algorithm reported as risk of progression to high grade dysplasia or cancer.

Current Procedural Terminology (CPT®) © American Medical Association: Chicago, IL

**LINE OF BUSINESS:**

**Eligibility and contract specific benefits, 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 supercede this policy. For PA Medicaid Business segment, this policy applies as written.**

**REFERENCES:**

Qin Y, Iyer PG. Predicting Progression in Barrett's Esophagus: Is the Holy Grail Within Reach? Am J Gastroenterol 2020;115:841–842.

Diehl, DL, et al. The TissueCypher Barrett's Esophagus Assay Impacts Clinical Decisions in the Management of Patients with Barrett's Esophagus. DDW 2020 Meeting Abstract, 2020, manuscript in preparation.

Hao, J. et al. A Cost-Effectiveness Analysis of an Adenocarcinoma Risk Prediction Multi-Biomarker Assay for Patients with Barrett's Esophagus. ClinicoEconomics and Outcomes Research, 2019. 11: p. 623-635.

Levine, DM, et al. A genome-wide association study identifies new susceptibility loci for esophageal adenocarcinoma and Barrett's esophagus. Nat Genet, 2013. 45(12): p. 1487-93.

Davison JM et al., Independent Validation of a Tissue Systems Pathology Test to Predict Progression in Barrett's Esophagus Patients. Gastroenterology, 2019 Suppl 1.

Prichard, JW, et al. TissueCypher: A Systems Biology Approach to Anatomic Pathology. J Pathol Inform, 2015;6(1):48.

Iyer PG, Codipilly DC, et al. Prediction of Progression in Barrett's Esophagus Using a Tissue Systems Pathology Test: A Pooled Analysis of International Multicenter Studies. Clin Gastroenterol Hepatol. 2022 Feb 22;S1542-3565(22)00190-2.

Diehl DL, Khara HS, Akhtar N, Critchley-Thorne RJ. TissueCypher Barrett's esophagus assay impacts clinical decisions in the management of patients with Barrett's esophagus. Endosc Int Open. 2021;9(3):E348-E355.

Khoshiwal AM, Frei NF, et al. The Tissue Systems Pathology Test Outperforms Pathology Review in Risk Stratifying Patients With Low-Grade Dysplasia. Gastroenterology. Aug 30, 2023

Duits, Lucas C. Khoshiwal, Amir M. Frei, Nicola F et al. An Automated Tissue Systems Pathology Test Can Standardize the Management and Improve Health Outcomes for Patients With Barrett's Esophagus. The American Journal of Gastroenterology July 14, 2023

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

**Devised:** 10/20

**Revised:**

**Reviewed:** 10/21, 10/22, 10/23, 10/24

**CMS UM Oversight Committee Approval:** 12/23, 12/24

Geisinger Health Plan may refer collectively to health care coverage sponsors Geisinger Health Plan, Geisinger Quality Options, Inc., and Geisinger Indemnity Insurance Company, unless otherwise noted. Geisinger Health Plan is part of Geisinger, an integrated health care delivery and coverage organization.

Coverage for experimental or investigational treatments, services and procedures is specifically excluded under the member's certificate with Geisinger Health Plan. Unproven services outside of an approved clinical trial are also specifically excluded under the member's certificate with Geisinger Health Plan. This policy does not expand coverage to services or items specifically excluded from coverage in the member's certificate with Geisinger Health Plan. Additional information can be found in MP015 Experimental, Investigational or Unproven Services.

Prior authorization and/or pre-certification requirements for services or items may apply. Pre-certification lists may be found in the member's contract specific benefit document. Prior authorization requirements can be found at <https://www.geisinger.org/health-plan/providers/ghp-clinical-policies>

Please be advised that the use of the logos, service marks or names of Geisinger Health Plan, Geisinger Quality Options, Inc. and Geisinger Indemnity Insurance Company on a marketing, press releases or any communication piece regarding the contents of this medical policy is strictly prohibited without the prior written consent of Geisinger Health Plan. Additionally, the above medical policy does not confer any endorsement by Geisinger Health Plan, Geisinger Quality Options, Inc. and Geisinger Indemnity Insurance Company regarding the medical service, medical device or medical lab test described under this medical policy.