



MASSACHUSETTS

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Medical Policy

Esophageal pH Monitoring

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Policy Number: 069

BCBSA Reference Number: 2.01.20

NCD/LCD: N/A

Related Policies

None

Policy

Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity Medicare HMO BlueSM and Medicare PPO BlueSM Members

Esophageal pH monitoring using a wireless or catheter-based system may be considered **MEDICALLY NECESSARY** for the following clinical indications in adults and children or adolescents able to report symptoms*:

- Documentation of abnormal acid exposure in endoscopy-negative patients being considered for surgical anti-reflux repair,
- Evaluation of patients after anti-reflux surgery who are suspected of having ongoing abnormal reflux,
- Evaluation of patients with either normal or equivocal endoscopic findings and reflux symptoms that are refractory to proton pump inhibitor therapy,
- Evaluation of refractory reflux in patients with chest pain after cardiac evaluation and after a 1-month trial of proton pump inhibitor therapy,
- Evaluation of suspected otolaryngologic manifestations of GERD (i.e., laryngitis, pharyngitis, chronic cough) that have failed to respond to at least 4 weeks of proton pump inhibitor therapy, or
- Evaluation of concomitant GERD in an adult-onset, non-allergic asthmatic suspected of having reflux-induced asthma.

24-hour catheter-based esophageal pH monitoring may be **MEDICALLY NECESSARY** in infants or children who are unable to report or describe symptoms of reflux with:

- Unexplained apnea,
- Bradycardia,
- Refractory coughing or wheezing, stridor, or recurrent choking (aspiration),
- Persistent or recurrent laryngitis,
- Recurrent pneumonia.

Catheter-based impedance-pH monitoring is NOT MEDICALLY NECESSARY.

*Esophageal pH monitoring systems should be used in accordance with FDA-approved indications and age ranges.

Prior Authorization Information

Inpatient

- For services described in this policy, precertification/preauthorization **IS REQUIRED** for all products if the procedure is performed **inpatient**.

Outpatient

- For services described in this policy, see below for products where prior authorization **might be required** if the procedure is performed **outpatient**.

| | Outpatient |
|---------------------------------------|--|
| Commercial Managed Care (HMO and POS) | Prior authorization is not required . |
| Commercial PPO and Indemnity | Prior authorization is not required . |
| Medicare HMO Blue SM | Prior authorization is not required . |
| Medicare PPO Blue SM | Prior authorization is not required . |

CPT Codes / HCPCS Codes / ICD Codes

Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member.

Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.

The following codes are included below for informational purposes only; this is not an all-inclusive list.

The above **medical necessity criteria MUST** be met for the following codes to be covered for Commercial Members: Managed Care (HMO and POS), PPO, Indemnity, Medicare HMO Blue and Medicare PPO Blue:

CPT Codes

| CPT codes: | Code Description |
|------------|---|
| 91034 | Esophagus, gastroesophageal reflux test; with nasal catheter pH electrode(s) placement, recording, analysis and interpretation |
| 91035 | Esophagus, gastroesophageal reflux test; with mucosal attached telemetry pH electrode placement, recording, analysis and interpretation |

ICD-10 Diagnosis Codes

| ICD-10-CM Diagnosis codes: | Code Description |
|----------------------------|--|
| G47.30 | Sleep apnea, unspecified |
| J37.0 | Chronic laryngitis |
| J44.0 | Chronic obstructive pulmonary disease with acute lower respiratory infection |
| J44.1 | Chronic obstructive pulmonary disease with (acute) exacerbation |
| J44.9 | Chronic obstructive pulmonary disease, unspecified |
| J45.20 | Mild intermittent asthma, uncomplicated |
| J45.21 | Mild intermittent asthma with (acute) exacerbation |
| J45.22 | Mild intermittent asthma with status asthmaticus |
| J45.30 | Mild persistent asthma, uncomplicated |

| | |
|---------|--|
| J45.31 | Mild persistent asthma with (acute) exacerbation |
| J45.32 | Mild persistent asthma with status asthmaticus |
| J45.40 | Moderate persistent asthma, uncomplicated |
| J45.41 | Moderate persistent asthma with (acute) exacerbation |
| J45.42 | Moderate persistent asthma with status asthmaticus |
| J45.50 | Severe persistent asthma, uncomplicated |
| J45.51 | Severe persistent asthma with (acute) exacerbation |
| J45.52 | Severe persistent asthma with status asthmaticus |
| J45.991 | Cough variant asthma |
| K21.0 | Gastro-esophageal reflux disease with esophagitis |
| K21.9 | Gastro-esophageal reflux disease without esophagitis |
| P22.8 | Other respiratory distress of newborn |
| P22.9 | Respiratory distress of newborn, unspecified |
| P24.30 | Neonatal aspiration of milk and regurgitated food without respiratory symptoms |
| P24.31 | Neonatal aspiration of milk and regurgitated food with respiratory symptoms |
| P24.81 | Other neonatal aspiration with respiratory symptoms |
| P28.2 | Cyanotic attacks of newborn |
| P28.3 | Primary sleep apnea of newborn |
| P28.4 | Other apnea of newborn |
| P28.5 | Respiratory failure of newborn |
| P28.81 | Respiratory arrest of newborn |
| P28.89 | Other specified respiratory conditions of newborn |
| P29.12 | Neonatal bradycardia |
| P84 | Other problems with newborn |
| R05 | Cough |
| R06.1 | Stridor |
| R06.2 | Wheezing |
| R06.81 | Apnea, not elsewhere classified |
| Z87.01 | Personal history of pneumonia (recurrent) |

The following CPT codes are considered investigational for **Commercial Members: Managed Care (HMO and POS), PPO, Indemnity, Medicare HMO Blue and Medicare PPO Blue:**

CPT Codes

| CPT codes: | Code Description |
|------------|---|
| 91037 | Esophageal function test, gastroesophageal reflux test with nasal catheter intraluminal impedance electrode(s) placement, recording, analysis and interpretation; |
| 91038 | Esophageal function test, gastroesophageal reflux test with nasal catheter intraluminal impedance electrode(s) placement, recording, analysis and interpretation; prolonged (greater than 1 hour, up to 24 hours) |

Description

GASTROESOPHAGEAL REFLUX DISEASE

Acid reflux is the cause of heartburn and acid regurgitation esophagitis, which can lead to esophageal stricture. Acid reflux can also cause or contribute to some cases of asthma, posterior laryngitis, chronic cough, dental erosions, chronic hoarseness, pharyngitis, subglottic stenosis or stricture, nocturnal choking, and recurrent pneumonia.

Diagnosis

Gastroesophageal reflux disease is most commonly diagnosed by clinical evaluation and treated empirically with a trial of medical management. For patients who do not respond appropriately to medications, or who have recurrent chronic symptoms, endoscopy is indicated to confirm the diagnosis

and assess the severity of reflux esophagitis. In some patients, endoscopy is nondiagnostic, or results are discordant with the clinical evaluation (in these cases, further diagnostic testing may be of benefit).

Monitoring

Esophageal monitoring is done using a tube with a pH electrode attached to its tip, which is then passed into the esophagus to approximately 5 cm above the upper margin of the lower esophageal sphincter. The electrode is attached to a data recorder worn on a waist belt or shoulder strap. Every instance of acid reflux, as well as its duration and pH, is recorded over a 24-hour period. Wireless pH monitoring is achieved using endoscopic or manometric guidance to attach the pH measuring capsule to the esophageal mucosa using a clip. The capsule records pH levels for up to 96 hours and transmits them via radio frequency telemetry to a receiver worn on the patient's belt. Data from the recorder are uploaded to a computer for analysis by a nurse or doctor.

Another technology closely related to pH monitoring is impedance pH monitoring, which incorporates pH monitoring with measurements of impedance, a method of measuring reflux of liquid or gas of any pH. Multiple electrodes are placed along the length of the esophageal catheter. The impedance pattern detected can determine the direction of flow and the substance (liquid or gas). Impedance monitoring can identify reflux events in which the liquid is only slightly acidic or nonacidic.

Summary

Esophageal pH monitoring, using wired or wireless devices, can record the pH of the lower esophagus for a period of several days. Impedance pH monitoring measures electrical impedance in the esophagus to evaluate reflux episodes concurrent with changes in pH. These tests are used for certain clinical indications in the evaluation of gastroesophageal reflux disease (GERD).

For individuals who have GERD who receive catheter-based pH monitoring, the evidence includes cross-sectional studies evaluating test performance in different populations. Relevant outcomes are test validity, symptoms, and functional outcomes. Positive pH monitoring tests correlate with endoscopically defined GERD and with GERD symptoms, but because there is no reference standard for clinical GERD, diagnostic characteristics cannot be determined. There are no studies of clinical utility showing improved outcomes, and the chain of evidence supporting the utility of the test is weak. The evidence is insufficient to determine that the technology improves health outcomes.

For individuals who have GERD who receive wireless pH monitoring, the evidence includes cross-sectional studies evaluating test performance and diagnostic yield in different populations. Relevant outcomes are test validity, symptoms, and functional outcomes. Positive wireless pH monitoring tests correlate with endoscopically defined GERD and GERD symptoms, but because there is no reference standard for clinical GERD, diagnostic characteristics cannot be determined. Some studies have shown higher positive test rates with prolonged wireless monitoring compared with catheter-based pH monitoring, but the effect of this finding on patient outcomes is uncertain. There are no studies of clinical utility showing improved outcomes, and the chain of evidence supporting the utility of the test is weak. The evidence is insufficient to determine that the technology improves health outcomes.

Expert clinical opinion has suggested that catheter-based and wireless pH monitoring may aid in the diagnosis of GERD in patients who have an uncertain diagnosis after clinical evaluation and endoscopy. Esophageal pH monitoring is not considered a standard diagnostic test for most patients with GERD, but there is strong clinical support for its use in selected subpopulations for certain indications. Clinical guidelines support pH testing for patients with GERD being considered for surgical intervention. Wireless pH monitoring measurements appear to correlate closely to catheter-based monitoring and may be more comfortable for patients.

For individuals who have GERD who receive impedance pH testing, the evidence includes cross-sectional studies evaluating test performance and diagnostic yield in different populations. Relevant outcomes are test validity, symptoms, and functional outcomes. Positive impedance pH tests correlate with endoscopically defined GERD and with GERD symptoms, but because there is no reference standard for clinical GERD, diagnostic characteristics cannot be determined. Some studies have shown

higher positive test rates with impedance pH testing compared with pH testing alone, but the effect of this finding on patient outcomes is uncertain. There are no studies of clinical utility showing improved outcomes, and the chain of evidence supporting the utility of the test is weak. The evidence is insufficient to determine that the technology improves health outcomes.

Policy History

| Date | Action |
|----------------|---|
| 1/2019 | BCBSA National medical policy review. Description, summary and references updated. Policy statements unchanged. |
| 1/2018 | New references added from BCBSA National medical policy. |
| 10/2015 | Clarified coding information. |
| 12/2014 | Clarified coding information. |
| 9/2014 | New references added from BCBSA National medical policy. |
| 5/2014 | Updated Coding section with ICD10 procedure and diagnosis codes. Effective 10/2015. |
| 4/2014 | Clarified coding information. |
| 12/2013 | BCBSA National medical policy review. Removed "24-hour" from the policy statement on impedance monitoring; catheter-based impedance monitoring for any length of time is considered not medically necessary. Effective 12/1/2013. Removed ICD-9 diagnosis codes 427.89, 462; 464.00; 464.01; 486; 493.00; 493.01; 493.02; 493.81; 493.90; 493.91; 493.92 as these do not meet the intent of the policy. ICD-9 diagnosis code V12.61 was added as it meets the intent of the policy. |
| 2/2013 | BCBSA National policy review. Changes to policy statements. Effective 2/4/2013 |
| 11/2011-4/2012 | Medical policy ICD 10 remediation: Formatting, editing and coding updates. No changes to policy statements. |
| 12/2011 | BCBSA National medical policy review. Changes to policy statements. |
| 11/2010 | Reviewed - Medical Policy Group - Gastroenterology, Nutrition and Organ Transplantation. No changes to policy statements. |
| 8/2010 | BCBSA National medical policy review. Changes to policy statements. |
| 11/2009 | Reviewed - Medical Policy Group - Gastroenterology, Nutrition and Organ Transplantation. No changes to policy statements. |
| 11/2008 | Reviewed - Medical Policy Group - Gastroenterology, Nutrition and Organ Transplantation. No changes to policy statements. |
| 12/2008 | New policy, effective 12/01/2008, describing covered and non-covered indications. |

Information Pertaining to All Blue Cross Blue Shield Medical Policies

Click on any of the following terms to access the relevant information:

[Medical Policy Terms of Use](#)

[Managed Care Guidelines](#)

[Indemnity/PPO Guidelines](#)

[Clinical Exception Process](#)

[Medical Technology Assessment Guidelines](#)

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