

## Oxygen Therapy

### Disclaimer

*Clinical guidelines are developed and adopted to establish evidence-based clinical criteria for utilization management decisions. Clinical guidelines are applicable according to policy and plan type. The Plan may delegate utilization management decisions of certain services to third parties who may develop and adopt their own clinical criteria.*

*Coverage of services is subject to the terms, conditions, and limitations of a member's policy, as well as applicable state and federal law. Clinical guidelines are also subject to in-force criteria such as the Centers for Medicare & Medicaid Services (CMS) national coverage determination (NCD) or local coverage determination (LCD) for Medicare Advantage plans. Please refer to the member's policy documents (e.g., Certificate/Evidence of Coverage, Schedule of Benefits, Plan Formulary) or contact the Plan to confirm coverage.*

### Summary

The Plan members who have hypoxemia (abnormally low blood oxygen levels) and meet certain clinical criteria may be eligible for Short-Term Oxygen Therapy (STOT) or Long-Term Oxygen Therapy (LTOT). STOT should be prescribed for hypoxemia in the setting of the acute conditions detailed in the criteria below and, in general, requires frequent reassessment. LTOT should only be prescribed when there is evidence of persistent hypoxemia in a clinically stable patient, who is receiving otherwise optimal medical management and meets specified clinical criteria. Optimal medical management should include treatment for the underlying condition. Patients who are clinically unstable may require oxygen therapy and be reassessed later for their long-term oxygen needs.

Oxygen therapy can be delivered via many different devices, including stationary units, portable or ambulatory equipment, and oxygen-conserving devices. The device must be prescribed by a licensed physician or advanced practice provider and supplied by an in-network vendor (unless the member has out-of-network benefits).

### Definitions

"Pulse Oximetry" is a non-invasive method of obtaining a member's oxygen saturation by analyzing light absorption of red blood cells in the arteries.

"Arterial Blood Gas" is a lab test run on blood collected from an artery that measures the absorbed gases in blood, including oxygen.

"Oxygen Carriers" are pieces of equipment used to help a member transport an oxygen delivery system. These are included in the rented system. Oxygen carriers may include but are not limited to:

1. A carrier attached to a wheelchair that is used to carry an oxygen cylinder; *or*
2. A stand that holds a cylinder that can be moved by the user; *or*
3. A shoulder bag to hold a portable tank.

"Oxygen Humidifiers" are bottles filled with water that attach to the oxygen system to create humidity and increase moisture in the user's airway. These are included in the rental system.

"Oxygen Regulators" attach to the oxygen cylinder (green tank) where they are used to adjust the flow of oxygen to deliver the prescribed amount. These are included in the rented system.

"Oxygen Concentrators" are stationary or portable devices that extract oxygen from room air and deliver oxygen at high concentration to the user via tubing, face mask, or nasal cannula. A backup system, usually an oxygen gas cylinder, accompanies a concentrator in case of power failure and is included in the rented system.

"Oxygen Gas Cylinders" are green tanks that are available in various sizes and store oxygen in a gaseous state under high pressure. Portable smaller tanks can be used when away from home or as a backup system in case of power failure. A backup oxygen system is included in the rented system. When tanks are empty the vendor must replace them.

"Liquid Oxygen Systems" are special thermos-like containers that store oxygen at minus 297 degrees F. They consist of a large main unit that is stationary and a separate smaller portable unit. The portable unit, used when away from home, can be refilled by the member from the large stationary unit.

"Portable Oxygen" provides the user with an oxygen supply when away from home. It comes in various forms such as: an oxygen gas cylinder with an attached regulator flow gauge, a portable concentrator, a small liquid oxygen system or HELiOS. It includes a regulator, tubing, mask or cannula.

"Oxygen Conserving Devices (A9900)" or "Oxygen Regulators" (may also be called HELiOS), release oxygen only during inhalation. This unit replaces the traditional oxygen regulator/flowmeter, which delivers a continuous flow of oxygen.

## Clinical Indications

### General Indications

Oxygen therapy is indicated when the patient has a medical condition that has been shown by evidence-based medicine to respond to the short- or long- term administration of oxygen therapy and when ALL of the following criteria are met:

1. The treating physician has determined that the member has a severe lung disease or hypoxia-related symptoms that have been shown by evidence-based medicine to improve with oxygen therapy; *and*
2. The treating physician has prescribed and indicated the type of device, delivery mechanism (cannula or mask), instructions for how it is to be used, duration of anticipated need, and oxygen flow rate; *and*
3. The qualifying arterial blood gas or pulse oximetry measurement was performed by a physician or by a qualified provider or supplier of laboratory services and the qualifying arterial blood gas was obtained under ONE of the following conditions:
  - a. If the qualifying arterial blood gas study or pulse oximetry is performed during an inpatient hospital stay, no earlier than one (1) day prior to the hospital discharge date; *or*
  - b. If the qualifying arterial blood gas study or pulse oximetry measurement is not performed during an inpatient hospital stay and the oxygen is being prescribed for a chronic condition, the arterial blood gas or pulse oximetry must be performed while the member is in a chronic stable state, i.e., not during acute illness or an exacerbation of their underlying disease. If pulse oximetry measurement is used, the following documentation is needed:
    1. When the ear lobe or finger is used for pulse oximetry, the area used for measurement must be at or above core body temperature. The body temperature must be documented with the measurement of a surface thermometer.
4. Alternative treatment measures (e.g., pulmonary rehabilitation, medical therapy) have been tried or considered and deemed clinically ineffective when appropriate; *and*
5. STOT or LTOT is deemed medically necessary based on the criteria below.

### Short Term Oxygen Therapy (STOT):

The Plan considers STOT medically necessary when ALL of the following criteria are met:

1. ONE of the following blood gas values are met:
  - a. The member meets for ONE of the following criteria for resting room air hypoxemia:
    - i. Arterial blood gas study demonstrates PaO<sub>2</sub> (partial pressure of oxygen) 56 to ≤59 (7.5 to 7.9 kPA) or oxygen saturation ≤ 89% that may resolve with limited or short-term oxygen therapy; *and*
      1. The member has signs of cor pulmonale, peripheral edema, erythrocytosis/polycythemia (Hct>55%), electrocardiogram (EKG) evidence of P-pulmonale, or pulmonary hypertension; *or*

- ii. Arterial blood gas study demonstrates PaO<sub>2</sub> (partial pressure of oxygen) ≤55 mm HG (7.3 kPA) or oxygen saturation ≤88%; *or*
  - b. The member meets for exertional room air hypoxemia:
    - i. Arterial blood gas study demonstrates PaO<sub>2</sub> (partial pressure of oxygen) ≤55 mm HG (7.3 kPA) or oxygen saturation ≤88% with exertion; *and*
- 2. Documentation of hypoxia-related symptoms or findings; *and*
- 3. Diagnosis of ONE of the following conditions:
  - a. Asthma; *or*
  - b. Bronchitis; *or*
  - c. COPD exacerbation; *or*
  - d. Croup; *or*
  - e. Pneumonia.

Subject to medical necessity review, STOT may also be indicated for any ONE of the following conditions:

- a. Cluster headaches when ALL the following criteria are met:
  - i. A diagnosis of cluster headaches has been clearly established and is consistent with criteria used by the International Headache Society; *and*
  - ii. Member is receiving and/or is refractory to prescription preventive headache medications, or such medications are contraindicated; *and*
  - iii. Member has no contraindications to high-flow oxygen therapy.
- b. Infants with Bronchopulmonary Dysplasia (BPD) when ALL of the following criteria are met:
  - i. The infant's mean pulse oximetry measures 95 percent or greater; *and*
  - ii. The infant does not have frequent episodes of oxygen desaturation; *and*
  - iii. Medical records include documentation of parent/caregiver education on equipment usage.
- c. Sickle cell disease with acute vaso-occlusion and hypoxia documented by arterial blood gas study

#### *Reassessment of STOT*

The Plan considers reassessment of STOT medically necessary when ONE of the following criteria are met:

- 1. In the absence of special circumstances, oxygen therapy requests meeting the above criteria will be authorized for up to one month; *or*
- 2. Continuation of STOT beyond the initial authorization period will require repeat arterial blood gas or pulse oximetry to demonstrate persistent hypoxemia. Oxygen therapy for the treatment of the above diagnoses is not considered medically necessary on an ongoing basis in the absence of special circumstances.

### Long Term Oxygen Therapy (LTOT)

The Plan considers medically necessary LTOT medically necessary when ALL of the following criteria are met:

1. The request is from an in-network durable medical equipment (DME) provider (unless the member has out-of-network benefits); *and*
2. LTOT is considered medically necessary for initial requests when the criteria outlined in MCG Oxygen Therapy, Continuous and Noncontinuous: Home (A-0343) are met.

### *Reassessment of LTOT*

The Plan considers reassessment of LTOT medically necessary when ONE of the following criteria are met:

1. Reassessment of LTOT must be performed via pulse oximetry OR arterial blood gas and must be performed by an independent respiratory provider 12 months after the initiation of therapy or prior to any request for continuation of LTOT; *or*
2. Additional reassessments may be requested at any time at the discretion of the Plan. The member's primary care and/or treating doctor must be notified for authorization of all testing and treatment changes, including the discontinuation of coverage for oxygen therapy.

### Oxygen Delivery Systems

Ambulatory or Portable Oxygen Therapy Systems (e.g., gaseous oxygen, liquid oxygen etc.), or Portable Oxygen Concentrators

*Note:* The weight of the system and amount of oxygen that the system can carry or deliver may vary. The expected lifespan of Oxygen equipment is 5 years with appropriate device maintenance by the DME provider from the initiation of therapy.

The member may be eligible for ambulatory or portable oxygen therapy systems or concentrators when ONE of the following criteria are met:

1. When the member has met medical necessity under General Indications and Long Term Oxygen Therapy (LTOT); *and*
  - a. The member is physically active outside of a home environment and requires supplemental oxygen when away from home; *and*
  - b. For initial requests, the treating physician must specify in the prescription the flow rate on exercise and the number of hours of portable therapy per day needed; *and*
  - c. Reassessment of ambulatory/portable oxygen therapy or portable oxygen concentrators must be performed. For long term therapy, authorizations may be considered medically necessary for up to 12 months; *or*
2. When there is documented evidence of exertional hypoxia for ALL of the following:
  - a. The member is physically active outside of a home environment and requires supplemental oxygen when away from home; *and*
  - b. For initial requests, the treating physician must specify in the prescription the flow rate on exercise and the number of hours of portable therapy per day needed; *and*

- c. Oxygen therapy should be titrated to achieve an oxygen saturation of 90% or greater when appropriate to age and condition; *and*
- d. Reassessment of ambulatory/portable oxygen therapy or portable oxygen concentrators must be performed. For long term therapy, authorizations may be considered medically necessary for up to 12 months.

*Note: Portable oxygen concentrators may require additional batteries and are not suitable for those individuals with high flow rates or those whose ventilatory patterns do not adequately trigger the device.*

#### Oxygen Therapy & Travel

1. If a member travels out of his/her vendor's service area, the member is responsible for working with his/her vendor to arrange for oxygen during travel.
2. For use on airplanes, members must work with the airline to determine what type of portable oxygen is allowed. They also need to coordinate with their oxygen DME vendor to obtain the proper equipment while traveling. Upgrades or duplicate oxygen equipment are not considered medically necessary.

#### Stationary Oxygen Therapy

The Plan considers stationary oxygen therapy as medically necessary when ONE of the following criteria are met:

1. This type of system for oxygen therapy is typically prescribed for members who use supplemental oxygen during sleep, do not regularly leave the home, or need more than 50-feet of tubing.

#### Experimental or Investigational / Not Medically Necessary

1. Oxygen for home use is considered experimental and investigational for the following:
  - a. Treatment of migraine headaches
  - b. Treatment of obstructive sleep apnea without concomitant signs and symptoms as defined by the criteria above
2. Oxygen for home use is not considered medically necessary for the following:
  - a. Angina pectoris in the absence of meeting the medically necessary criteria above
  - b. Dyspnea without evidence of meeting the medically necessary criteria above
  - c. Severe peripheral vascular disease with evidence of desaturation in one or more extremities but in the absence of meeting the medically necessary criteria above
  - d. Terminal illness that does not affect the respiratory system

#### Applicable Billing Codes (HCPCS/CPT Codes)

Codes considered medically necessary if clinical criteria are met:

<i>Code</i>	<i>Description</i>

A4611	Battery, heavy-duty; replacement for patient-owned ventilator
A4612	Battery cables; replacement for patient-owned ventilator
A4613	Battery charger; replacement for patient-owned ventilator
A4615	Cannula, nasal
A4616	Tubing (oxygen), per foot
A4617	Mouthpiece
A4618	Breathing circuits
A4619	Face tent
A4620	Variable concentration mask
E0424	Stationary compressed gaseous oxygen system, rental; includes container, contents, regulator, flowmeter, humidifier, nebulizer, cannula or mask, and tubing
E0425	Stationary compressed gas system, purchase; includes regulator, flowmeter, humidifier, nebulizer, cannula or mask, and tubing
E0430	Portable gaseous oxygen system, purchase; includes regulator, flowmeter, humidifier, cannula or mask, and tubing
E0431	Portable gaseous oxygen system, rental; includes portable container, regulator, flowmeter, humidifier, cannula or mask, and tubing
E0433	Portable liquid oxygen system, rental; home liquefier used to fill portable liquid oxygen containers, includes portable containers, regulator, flowmeter, humidifier, cannula or mask and tubing, with or without supply reservoir and content gauge
E0434	Portable liquid oxygen system, rental; includes portable container, supply reservoir, humidifier, flowmeter, refill adaptor, contents gauge, cannula or mask, and tubing
E0435	Portable liquid oxygen system purchase; includes portable container, supply reservoir, flowmeter, humidifier, contents gauge, cannula or mask, tubing and refill adaptor
E0439	Stationary liquid oxygen system, rental; includes container, contents, regulator, flowmeter, humidifier, nebulizer, cannula or mask, and tubing
E0440	Stationary liquid oxygen system, purchase; includes use of reservoir, contents indicator, regulator, flowmeter, humidifier, nebulizer, cannula or mask, and tubing
E0441	Oxygen contents, gaseous, 1 month's supply = 1 unit
E0442	Oxygen contents, liquid, 1 month's supply = 1 unit
E0443	Portable oxygen contents, gaseous, 1 month's supply = 1 unit

E0444	Portable oxygen contents, liquid, 1 month's supply = 1 unit
E0447	Portable oxygen contents, liquid, 1 month's supply = 1 unit, prescribed amount at rest or nighttime exceeds 4 liters per minute (LPM)
E0455	Oxygen tent, excluding croup or pediatric tents
E1352	Oxygen accessory, flow regulator capable of positive inspiratory pressure
E1353	Regulator
E1354	Oxygen accessory, wheeled cart for portable cylinder or portable concentrator, any type, replacement only, each
E1355	Stand/rack
E1356	Oxygen accessory, battery pack / cartridge for portable concentrator, any type, replacement only, each
E1357	Oxygen accessory, battery charger for portable concentrator, any type, replacement only, each
E1358	Oxygen accessory, DC power adapter for portable concentrator, any type, replacement only, each
E1390	Oxygen concentrator, single delivery port, capable of delivering 85 percent or greater oxygen concentration at the prescribed flow rate
E1391	Oxygen concentrator, dual delivery port, capable of delivering 85 percent or greater oxygen concentration at the prescribed flow rate, each
E1392	Portable oxygen concentrator, rental
E1405	Oxygen and water vapor enriching system with heated delivery
E1406	Oxygen and water vapor enriching system without heated delivery
K0738	Portable gaseous oxygen system, rental; home compressor used to fill portable oxygen cylinders; includes portable containers, regulator, flowmeter, humidifier, cannula or mask, and tubing
S8120	Oxygen contents, gaseous, 1 unit equals 1 cubic foot
S8121	Oxygen contents, liquid, 1 unit equals 1 pound
82803	Gases, blood, any combination of pH, pCO <sub>2</sub> , pO <sub>2</sub> , CO <sub>2</sub> , HCO <sub>3</sub> (including calculated O <sub>2</sub> saturation)
82805	Gases, blood, any combination of pH, pCO <sub>2</sub> , pO <sub>2</sub> , CO <sub>2</sub> , HCO <sub>3</sub> (including calculated O <sub>2</sub> saturation); with O <sub>2</sub> saturation, by direct measurement, except pulse oximetry
82810	Gases, blood, O <sub>2</sub> saturation only, by direct measurement, except pulse oximetry



94010	Spirometry, including graphic record, total and timed vital capacity, expiratory flow rate measurement(s), with or without maximal voluntary ventilation
94011	Measurement of spirometric forced expiratory flows in an infant or child through 2 years of age
94012	Measurement of spirometric forced expiratory flows, before and after bronchodilator, in an infant or child through 2 years of age
94013	Measurement of lung volumes (ie, functional residual capacity [FRC], forced vital capacity [FVC], and expiratory reserve volume [ERV]) in an infant or child through 2 years of age
94014	Patient-initiated spirometric recording per 30-day period of time; includes reinforced education, transmission of spirometric tracing, data capture, analysis of transmitted data, periodic recalibration and review and interpretation by a physician or other qualified health care professional
94015	Patient-initiated spirometric recording per 30-day period of time; recording (includes hook-up, reinforced education, data transmission, data capture, trend analysis, and periodic recalibration)
94016	Patient-initiated spirometric recording per 30-day period of time; review and interpretation only by a physician or other qualified health care professional
94060	Bronchodilation responsiveness, spirometry as in 94010, pre- and post-bronchodilator administration
94070	Bronchospasm provocation evaluation, multiple spirometric determinations as in 94010, with administered agents (eg, antigen[s], cold air, methacholine)
94150	Vital capacity, total (separate procedure)
94200	Maximum breathing capacity, maximal voluntary ventilation
94375	Respiratory flow volume loop
94450	Breathing response to hypoxia (hypoxia response curve)
94452	High altitude simulation test (HAST), with interpretation and report by a physician or other qualified health care professional
94453	High altitude simulation test (HAST), with interpretation and report by a physician or other qualified health care professional; with supplemental oxygen titration
94610	Intrapulmonary surfactant administration by a physician or other qualified health care professional through endotracheal tube
94617	Exercise test for bronchospasm, including pre- and post-spirometry and pulse oximetry; with electrocardiographic recording(s)

94618	Pulmonary stress testing (eg, 6-minute walk test), including measurement of heart rate, oximetry, and oxygen titration, when performed
94619	Exercise test for bronchospasm, including pre- and post-spirometry and pulse oximetry; without electrocardiographic recording(s)
94620	Cardiopulmonary exercise testing, including measurements of minute ventilation, CO2 production, O2 uptake, and electrocardiographic recordings
94625	Physician or other qualified health care professional services for outpatient pulmonary rehabilitation; without continuous oximetry monitoring (per session)
94626	Physician or other qualified health care professional services for outpatient pulmonary rehabilitation; with continuous oximetry monitoring (per session)
94640	Pressurized or nonpressurized inhalation treatment for acute airway obstruction for therapeutic purposes and/or for diagnostic purposes such as sputum induction with an aerosol generator, nebulizer, metered dose inhaler or intermittent positive pressure breathing (IPPB) device
94642	Aerosol inhalation of pentamidine for pneumocystis carinii pneumonia treatment or prophylaxis
94644	Continuous inhalation treatment with aerosol medication for acute airway obstruction; first hour
94662	Continuous negative pressure ventilation (CNP), initiation and management
94667	Manipulation chest wall, such as cupping, percussing, and vibration to facilitate lung function; initial demonstration and/or evaluation
94668	Manipulation chest wall, such as cupping, percussing, and vibration to facilitate lung function; subsequent
94669	Mechanical chest wall oscillation to facilitate lung function, per session
94680	Oxygen uptake, expired gas analysis; rest and exercise, direct, simple
94681	Oxygen uptake, expired gas analysis; including CO2 output, percentage oxygen extracted
94690	Oxygen uptake, expired gas analysis; rest, indirect (separate procedure)
94726	Plethysmography for determination of lung volumes and, when performed, airway resistance
94727	Gas dilution or washout for determination of lung volumes and, when performed, distribution of ventilation and closing volumes
94728	Airway resistance by oscillometry

94729	Diffusing capacity (eg, carbon monoxide, membrane) (List separately in addition to code for primary procedure)
94760	Noninvasive ear or pulse oximetry for oxygen saturation; single determination
94761	Noninvasive ear or pulse oximetry for oxygen saturation; multiple determinations (eg, during exercise)
94762	Noninvasive ear or pulse oximetry for oxygen saturation; by continuous overnight monitoring (separate procedure)
94772	Circadian respiratory pattern recording (pediatric pneumogram), 12-24 hour continuous recording, infant
94774	Pediatric home apnea monitoring event recording including respiratory rate, pattern and heart rate per 30-day period of time; includes monitor attachment, download of data, review, interpretation, and preparation of a report by a physician or other qualified health care professional
94775	Pediatric home apnea monitoring event recording including respiratory rate, pattern and heart rate per 30-day period of time; monitor attachment only (includes hook-up, initiation of recording and disconnection)
94776	Pediatric home apnea monitoring event recording including respiratory rate, pattern and heart rate per 30-day period of time; monitoring, download of information, receipt of transmission(s) and analyses by computer only
94777	Pediatric home apnea monitoring event recording including respiratory rate, pattern and heart rate per 30-day period of time; review, interpretation and preparation of report only by a physician or other qualified health care professional
99503	Home visit for respiratory therapy care (e.g., bronchodilator, oxygen therapy, respiratory assessment, apnea evaluation)
99504	Home visit for mechanical ventilation care
ICD-10 codes considered medically necessary if criteria are met:	
A22.1	Pulmonary anthrax
A37.01	Whooping cough due to Bordetella pertussis with pneumonia
A37.11	Whooping cough due to Bordetella pertussis with pneumonia
A37.81	Whooping cough due to Bordetella pertussis with pneumonia
A37.91	Whooping cough, unspecified species with pneumonia

A48.1	Legionnaires' disease
A50.04	Early congenital syphilitic pneumonia
B25.0	Cytomegaloviral pneumonitis
B37.1	Pulmonary candidiasis
B44.0	Invasive pulmonary aspergillosis
B77.81	Ascariasis pneumonia
C00.0 - C96.9	Malignant neoplasms
D00.00 - D09.9	In situ neoplasms
D57.00 - D57.09	Hb-SS disease with crisis
D57.1	Sickle-cell disease without crisis
D57.20 - D57.219	Sickle-cell/Hb-C disease
D57.411 - D57.459	Sickle-cell thalassemia
D57.811 - D57.819	Other sickle-cell disorders
D75.1	Secondary polycythemia
E66.2	Morbid (severe) obesity with alveolar hypoventilation
E84.0 - E84.9	Cystic fibrosis
G44.001	Cluster headache syndrome, unspecified, intractable
G44.009	Cluster headache syndrome, unspecified, not intractable
G44.011	Episodic cluster headache, intractable
G44.019	Episodic cluster headache, not intractable
G44.021	Chronic cluster headache, intractable
G44.029	Chronic cluster headache, not intractable

G47.31	Primary central sleep apnea
G70.0 - G70.9	Myasthenia gravis and other myoneural disorders
G71.00 - G71.9	Primary disorders of muscles
G72.0 - G72.9	Other and unspecified myopathies
G73.1 - G73.7	Disorders of myoneural junction and muscle in diseases classified elsewhere
I27.0	Primary pulmonary hypertension
I27.1	Kyphoscoliotic heart disease
I27.20 - I27.29	Other secondary pulmonary hypertension
I27.81	Cor pulmonale (chronic)
I50.20 - I50.23	Systolic (congestive) heart failure
I50.30 - I50.33	Diastolic (congestive) heart failure
I50.40 - I50.43	Combined systolic (congestive) and diastolic (congestive) heart failure
I50.810 - I50.89	Other heart failure
I50.9	Heart failure, unspecified
J05.0	Acute obstructive laryngitis [croup]
J12.0 - J12.9	Viral pneumonia, not elsewhere classified
J13	Pneumonia due to Streptococcus pneumoniae
J14	Pneumonia due to Hemophilus influenzae
J15.0 - J15.9	Bacterial pneumonia, not elsewhere classified
J16.0 - J16.8	Pneumonia due to other infectious organisms, not elsewhere classified
J17	Pneumonia in diseases classified elsewhere
J18.0 - J18.9	Pneumonia, unspecified organism
J20.0 - J20.9	Acute bronchitis

J21.0 - J21.9	Acute bronchiolitis
J40	Bronchitis, not specified as acute or chronic
J41.0 - J41.8	Simple and mucopurulent chronic bronchitis
J42	Unspecified chronic bronchitis
J43.0 - J43.9	Emphysema
J44.0 - J44.9	Other chronic obstructive pulmonary disease
J45.20 - J45.998	Asthma
J47.0 - J47.9	Bronchiectasis
J60 - J70	Lung diseases due to external agents
J80	Acute respiratory distress syndrome
J81.0, J81.1	Pulmonary edema
J82.81 - J82.89	Pulmonary eosinophilia, not elsewhere classified
J84.01 - J84.9	Other interstitial pulmonary diseases
J90	Pleural effusion, not elsewhere classified
J91.0 - J91.8	Pleural effusion in conditions classified elsewhere
J92.0 - J92.9	Pleural plaque
J93.0 - J93.9	Pneumothorax and air leak
J95.4	Chemical pneumonitis due to anesthesia
J96.00 - J96.92	Respiratory failure, not elsewhere classified
J98.01 - J98.9	Other respiratory disorders
J99	Respiratory disorders in diseases classified elsewhere
P23.0 - P23.9	Congenital pneumonia
P24.81	Other neonatal aspiration with respiratory symptoms

P27.1	Bronchopulmonary dysplasia originating in the perinatal period
Q10 - Q18	Congenital malformations of eye, ear, face and neck
Q20.0 - Q20.9	Congenital malformations of cardiac chambers and connections
Q21.0- Q21.9	Congenital malformations of cardiac septa
Q22.0 - Q22.9	Congenital malformations of pulmonary and tricuspid valves
Q23.0 - Q23.9	Congenital malformations of aortic and mitral valves
Q24.0 - Q24.9	Other congenital malformations of heart
Q25.0 - Q25.9	Congenital malformations of great arteries
Q26.0 - Q26.9	Congenital malformations of great veins
Q33.6	Congenital hypoplasia and dysplasia of lung
R09.02	Hypoxemia
R60.0	Localized edema
R79.81	Abnormal blood-gas level

Codes not considered medically necessary for indications listed in this Guideline:

<i>Code</i>	<i>Description</i>
E1399	Durable medical equipment, miscellaneous

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