

Pectus Deformity Repair

LOB(s): <input checked="" type="checkbox"/> Commercial <input checked="" type="checkbox"/> Medicare <input checked="" type="checkbox"/> Medicaid	State(s): <input checked="" type="checkbox"/> Idaho <input checked="" type="checkbox"/> Montana <input checked="" type="checkbox"/> Oregon <input checked="" type="checkbox"/> Washington <input type="checkbox"/> Other: <input checked="" type="checkbox"/> Oregon <input type="checkbox"/> Washington
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Enterprise Policy

PacificSource is committed to assessing and applying current regulatory standards, widely-used treatment guidelines, and evidenced-based clinical literature when developing clinical criteria for coverage determination. Each policy contains a list of sources (references) that serves as the summary of evidence used in the development and adoption of the criteria. The evidence was considered to ensure the criteria provide clinical benefits that promote patient safety and/or access to appropriate care. Each clinical policy is reviewed, updated as needed, and readopted, at least annually, to reflect changes in regulation, new evidence, and advancements in healthcare.

Clinical Guidelines are written when necessary to provide guidance to providers and members in order to outline and clarify coverage criteria in accordance with the terms of the Member's policy. This Clinical Guideline only applies to PacificSource Health Plans, PacificSource Community Health Plans, and PacificSource Community Solutions in Idaho, Montana, Oregon, and Washington. Because of the changing nature of medicine, this list is subject to revision and update without notice. This document is designed for informational purposes only and is not an authorization or contract. Coverage determinations are made on a case-by-case basis and subject to the terms, conditions, limitations, and exclusions of the Member's policy. Member policies differ in benefits and to the extent a conflict exists between the Clinical Guideline and the Member's policy, the Member's policy language shall control. Clinical Guidelines do not constitute medical advice nor guarantee coverage.

Background

The two most common types of chest wall deformity are Pectus Excavatum (PE) and Pectus Carinatum (PC). These deformities can lead to cardiac and/or respiratory impairment, associated functional limitations, frequent respiratory infections, asthma, pain, cosmetic and related psychological symptoms issues/ concerns.

Pectus Excavatum (PE) is the most common type of chest deformity in which several ribs and the sternum grow abnormally, producing a concave or caved-in appearance of the anterior chest wall. Severe cases can cause cardiopulmonary impairment and physiologic limitations.

Pectus Carinatum (PC) is characterized by an anterior protrusion deformity of the sternum and costal cartilages. Pectus Carinatum is typically not confirmed until after the growth spurts of early adolescence. There are two different types of Pectus Carinatum:

- **Chondrogladiolar prominence:** also called "chicken breast," in which the middle and lower sections of the breastbone push forward. This is the most common form of the condition.
- **Chondromanubrial prominence:** also called "Pouter pigeon breast," in which the breastbone develops in a Z-shape, with the top section pushing forward. This is more rare and complex form of the condition.

Haller Index (also known as pectus index): The Haller Index is used to calculate the degree of deformity using measurements obtained by CT scan. A Haller Index of at least 3.25 is generally recognized to indicate pectus excavatum of sufficient severity to consider surgical repair.

Criteria

Commercial

Prior authorization is required

I. Pectus Excavatum

- A. PacificSource considers surgical repair of Pectus Excavatum medically necessary when **ALL** of the following criteria is met:
1. Documented functional impairment with associated physical symptoms (e.g., asthma, atypical chest pain, frequent lower respiratory infections, and exercise limitation/intolerance per objective testing)
 2. Documentation of degree of deformity by **ONE** of the following:
 - a. Confirm Haller index greater than 3.25
 - b. Cardiac compression, displacement or conduction abnormalities demonstrated by cardiac testing, such as echocardiography or stress echocardiography
 - c. Restrictive lung disease as demonstrated by a total lung capacity (TLC) less than or equal to 80% of predictive value per pulmonary function testing

II. Pectus Carinatum

- A. PacificSource considers surgical repair of Pectus Carinatum medically necessary when **ALL** of the following is met:
1. Documented functional impairment with associated physical symptoms. (e.g., cardiac, or respiratory insufficiency)
 2. Haller index (pectus severity index) of less than or equal to 2.0
- B. PacificSource considers non-surgical orthotic compressive bracing for the treatment of Pectus Carinatum medically necessary when **ALL** of the following is met:
1. Brace is custom-made for the individual
 2. Documented cardiac or pulmonary impairment
 3. Skeletal growth is incomplete

Note: Cryoablation (cryoanalgesia) is covered for pre-operative, intra-operative, and post-operative pain management for approved Pectus procedures (CPT 64420, 64421, 64620, 64999)

III. Not Covered (Contract Exclusion)

PacificSource does not cover surgical repair of a chest wall deformity performed solely to improve appearance to treat psychological symptomatology. This is considered cosmetic and not a covered benefit.

PacificSource does not cover breast reconstruction procedures performed in association with surgical repair of a chest wall deformity for Pectus Excavatum, or Pectus Carinatum. This is considered

cosmetic and not a covered benefit. Such reconstruction procedures include, but are not limited to the following:

- Breast reconstruction with latissimus dorsi flap or other technique
- Mastopexy
- Mammoplasty with or without prosthetic implant
- Nipple/areolar reconstruction
- Breast reconstruction with tissue expander
- Revision of reconstructed breast
- Insertion of breast prosthesis.

Medicaid

PacificSource Community Solutions follows the criteria hierarchy in the “Clinical Criteria Used in UM Decisions” policy for coverage of pectus deformity repair. PCS covers surgical repair when the condition and service(s) pair on a funded line on the HERC Prioritized List of Health Services, any relevant Guideline criteria is fulfilled, and service(s) are medically/orally necessary and appropriate for the specific member.

Ancillary services and additional coverage options for unfunded conditions and services are provided as described in Covered Services OAR 410-141-3820. Service(s) may be limited or excluded in accordance with OARs 410-141-3825 and 410-120-1200, except as otherwise provided in the Covered Services Rule.

PCS follows the coverage, limitations, and restrictions outlined in Durable Medical Equipment, Prosthetic Orthotics, and Supplies OARs 410-122-0080 and 410-122-0660 for coverage of spinal orthoses to treat pectus deformity.

PCS follows the “Unlisted and Unspecified Procedure Codes” policy for requests for unlisted codes.

PacificSource follows the “Early and Periodic Screening, Diagnostic, and Treatment (EPSDT)” criteria for members under 21 and Young Adults with Special Health Care Needs (YSHCN). A case-by-case review for EPSDT Medical Necessity and EPSDT Medical Appropriateness as defined in OAR 410-151-0001 is required prior to a determination of non-coverage.

Medicare

PacificSource Medicare follows CMS guidelines and criteria. In the absence of CMS criteria and guidelines, PacificSource Medicare will follow internal policy for determination of coverage and medical necessity.

Experimental/Investigational/Unproven

PacificSource considers Dynamic Compression System for the treatment of Pectus Excavatum to be experimental, investigational, or unproven.

Definitions

Congenital Anomaly - A physical developmental defect that is present at the time of birth or identified within the first twelve months of birth.

Cosmetic Procedures - Procedures or services performed to alter or reshape normal structures of the body in order to improve a member's appearance.

Cryoanalgesia (Intercostal Nerve Block) - is a method of relieving pain by freezing the affected nerve, causing an interruption of pain impulses to the brain

Functional/Physical Impairment- An impairment which causes deviation from the normal function of a tissue or organ resulting in a significantly limited, impaired, or delayed capacity to move, coordinate actions, or perform physical activities.

Haller Index - Most commonly used scale for determining the severity of chest wall deformities. Computerized Tomography (CT) is used to determine the index, which is obtained by dividing the inner width of the chest at its widest point by the distance between the posterior surface of the sternum and the anterior surface of the spine. This measurement uses the deepest level of the inner sternal depression to the anterior aspect of the vertebral body. A normal chest has a Haller index of about 2.5.

- For pectus excavatum the Haller index is calculated by measuring the transverse diameter of the thorax between the internal rib margins, divided by the minimal antero-posterior depth as measured from the internal aspect of the sternum to the anterior cortex of the subjacent vertebral body.
- For pectus carinatum the index is calculated by measuring the transverse diameter of the thorax between the internal rib margins, divided by the antero-posterior depth as measured from the most anterior level of the sternum to the anterior cortex of the subjacent vertebral body.

Pectus Carinatum- A protrusion of the chest over the sternum. It is extremely uncommon that Pectus Carinatum will cause a functional/physiological deficit. Pectus Carinatum is not a congenital anomaly; it is a developmental condition of the cartilage that generally occurs during an adolescent's growth spurt.

Pectus Excavatum- Posterior depression of the sternum and adjacent costal with variable severity that may be mild, moderate, or severe. The depth and extent of the depression determine the degree of cardiac and pulmonary compression, which in turn determines the degree of incapacitation.

Reconstructive Procedures - Procedures used to correct or repair abnormal structures of the body caused by congenital defects, developmental abnormalities, trauma, infection, tumors, or disease. Reconstructive procedures include surgery or other procedures which are associated with an injury, illness, or Congenital Anomaly.

Restrictive lung disease - A respiratory disease characterized by a loss of lung compliance, causing incomplete lung expansion and increased stiffness.

Coding Information

The following list of codes are for informational purposes only and may not be all-inclusive. Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement.

- 21740 Reconstructive repair of pectus excavatum or carinatum; open
- 21742 Reconstructive repair of pectus excavatum or carinatum; minimally invasive approach (nuss procedure), w/o thoracoscopy
- 21743 Reconstructive repair of pectus excavatum or carinatum; minimally invasive approach (nuss procedure), w/thoracoscopy
- 64420 Injection(s), anesthetic agent(s) and/or steroid; intercostal nerve, single level
- 64421 Injection(s), anesthetic agent(s) and/or steroid; intercostal nerve, each additional level (List separately in addition to code for primary procedure)
- 64620 Destruction by neurolytic agent, intercostal nerve
- 64999 Unlisted procedure, nervous system
- L1499 Spinal orthosis, not otherwise specified

References

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- Mayer, O.H., et al. (November 24, 2021). Pectus excavatum: Etiology and evaluation. UpToDate. <http://www.uptodate.com/contents/pectus-excavatum-etiology-and-evaluation?source=machineLearning&search=Pectus+excavatum&selectedTitle=1%7E41§ionRank=2&anchor=H15#H15>
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- National Institute for Clinical Excellence (NICE). (August 2009). Placement of pectus bar for pectus excavatum (also known as MIRPE or the Nuss procedure). NICE interventional procedure guidance [IPG310]. <https://www.nice.org.uk/guidance/ipg310/resources/placement-of-pectus-bar-for-pectus-excavatum-also-known-as-mirpe-or-the-nuss-procedure-1899867385111237>
- Oregon Administrative Rules (OARs). Oregon Health Authority. Health Systems: Medical Assistance Programs – Chapter 410 <https://secure.sos.state.or.us/oard/displayChapterRules.action?selectedChapter=87>
- The Health Evidence Review Commission (HERC) Prioritized List of Health Services <https://www.oregon.gov/oha/HSD/OHP/Pages/Prioritized-List.aspx>

Related Policies

Clinical Criteria Used in UM Decisions

Early and Periodic Screening, Diagnostic, and Treatment (EPSDT)

Unlisted and Unspecified Procedure Codes

Appendix

Policy Number:

Effective: 7/1/2020

Next review: 9/1/2026

Author(s):

Depts: Health Services

Applicable regulation(s): OARs 410-120-1200, 410-141-3820, 410-141-3825, 410-151-000 through 410-151-0003, 410-122-0008, 410-122-0660.

Commercial OPs: 8/2025

Government OPs: 8/2025