Pectus Deformity Treatment

LOB(s):	State(s):
☒ *Commercial* ☒ *Medicare*	☒ *Idaho* ☒ *Montana* ☒ *Oregon* ☒ *Washington* ☐ *Other:*
☒ *Medicaid*	☒ *Oregon*

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

Pectus deformities are congenital or developmental abnormalities of the anterior chest wall, most commonly pectus excavatum (PE) and pectus carinatum (PC). These conditions vary in severity and may be associated functional limitations, including cardiopulmonary impairment, exercise intolerance, chest pain, and recurrent respiratory symptoms, as well as psychological impact related to chest wall appearance.

- **Pectus Excavatum (PE)** is the characterized by posterior depression of the sternum and adjacent costal cartilages, resulting in a concave chest wall deformity. In moderate-to-severe cases, PE may cause cardiac compression, restricted lung capacity, and reduced exercise tolerance, depending on the degree of deformity.

Pectus Carinatum (PC) is characterized by anterior protrusion of the sternum and costal cartilages. Pectus Carinatum typically becomes more apparent during periods of rapid growth in adolescence. While often less likely to cause physiologic impairment than PE, PC may be associated with significant chest discomfort, exercise limitation, and significant psychological impact.

Criteria

Commercial

Prior authorization is required.

I. Non-surgical Orthotic Compressive Bracing (e.g., Dynamic Compression System)

A. PacificSource considers non-surgical orthotic compressive bracing (e.g., Dynamic Compression System) medically necessary when **ALL** of the following are met:

1. Diagnosis of Pectus Carinatum
2. Orthotic compression brace (e.g., Dynamic Compression System) is custom-made for the individual
3. Documented symptomatic or functional impairment (e.g., cardiac or respiratory insufficiency related to the deformity, when present)
4. Skeletal growth is incomplete

Note: Non-dynamic (non-adjustable) orthotic bracing systems (including static compression devices) that do not allow controlled, measurable compression, or individualized adjustment are not considered medically necessary.

II. Surgical Repair

A. Pectus Excavatum

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

B. Pectus Carinatum

1. PacificSource considers surgical repair of Pectus Carinatum medically necessary when **ALL** of the following is met:
   - **a.** Documented functional impairment with attributable to the chest wall deformity (e.g., exertional dyspnea, chest pain, recurrent respiratory symptoms, or exercise intolerance)
   - **b.** Haller index (pectus severity index) of less than or equal to 2.0
   - **c.** Orthotic compressive bracing (e.g., Dynamic Compression System) is not clinically indicated, not tolerated, or has failed to produce adequate correction, based on clinical documentation (e.g., lack of improvement or patient intolerance)

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 concerns in the absence of documented functional impairment 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 (PCS) follows the general coverage, limitations, and exclusions outlined in OARs 410-141-3820, 410-141-3825, and 410-120-1200. Relevant coverage guidance, including but not limited to Guideline Note 94 and Ancillary Guideline A1 of the Health Evidence Review Commission (HERC) Prioritized List of Health Services; as well as any applicable Oregon Administrative Rules (OARs) may be used to determine coverage of Pectus Deformity Repair.

PacificSource Community Solutions (PCS) follows the Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) coverage requirements in OAR 410-151-0000 through 410-151-0003 for EPSDT beneficiaries. Relevant coverage guidance, including but not limited to Guideline Note 94 and Ancillary Guideline A1, may be used to assist in informing a determination of medical necessity and medical appropriateness during the individual case review. A case-by-case review for EPSDT Medical Necessity and EPSDT Medical Appropriateness as defined in OAR 410-151-0001 is required prior to denying. Refer to the Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) policy for details.

Medicare

PacificSource Medicare follows CMS guidelines and criteria. In the absence of CMS guidelines and criteria, PacificSource Medicare will follow the PacificSource commercial criteria above for determination of coverage and medical necessity coverage for pectus deformity repair.

Experimental/Investigational/Unproven

PacificSource considers Orthotic compression bracing (e.g., Dynamic Compression System) for the treatment of Pectus Excavatum to be experimental, investigational, or unproven.*

Note: * indicates the item remains E/I/U but will not be reviewed annually by the NTOC Committee, unless requested.

Note: PacificSource Community Solutions (PCS) and PacificSource Medicare require items listed on this policy's E/I/U list, to be reviewed by medical necessity review guidelines. Please see related policy, "Clinical Criteria Used in UM Decisions" to review criteria hierarchy and "Medical Necessity Reviews" for determination of coverage and medical necessity guidelines.

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 and that do not result in meaningful improvement of functional impairment.

Cryoanalgesia (Intercostal Nerve Block) - A method of pain control that uses controlled freezing of intercostal nerves to temporarily interrupt transmission of pain signals.

Functional/Physical Impairment - A clinically significant impairment that results in limitation of normal physiologic function, including but not limited to cardiopulmonary compromise, reduced exercise tolerance, or pain interfering with activities of daily living.

Haller Index - A radiographic measurement to assess severity of chest wall deformities, calculated as the ratio of the transverse diameter of the chest to anteroposterior distance between the sternum and spine at the point of maximal deformity.

- Normal value is approximately 2.5
- Values greater than or equal to 3.25 are typically considered severe in pectus excavatum

Reconstructive Procedures - Procedures performed to correct abnormal structures of the body caused by congenital defects, developmental abnormalities, trauma, infection, tumors, or disease, when such correction is expected to restore or improve functional impairment.

Restrictive lung disease - A respiratory condition characterized by reduced lung expansion and decreased lung volumes, typically measured by pulmonary function testing (e.g., reduced lung capacity).

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

L1320 Thoracic, pectus carinatum orthosis, sternal compression, rigid circumferential frame with anterior and posterior rigid pads, custom fabricated

L1499 Spinal orthosis, not otherwise specified

References

Aljohar, F., et al. (2026). Minimally invasive care for pectus carinatum. Journal of Pediatric Surgery. https://www.jpedsurg.org/article/S0022-3468(26)00094-1/fulltex

Dunning, J., et al. (2024). The pectus care guidelines: Best practice consensus for the treatment of pectus abnormalities. European Journal of Cardio-Thoracic Surgery, 66(1). https://academic.oup.com/ejcts/article/66/1/ezae166

Jaroszewski, D., Notrica, D., McMahon, L., Steidley, D. E., & Deschamps, C. (2010). Current management of pectus excavatum: a review and update of therapy and treatment recommendations. *Journal of the American Board of Family Medicine: JABFM*, *23*(2), 230–239. https://doi.org/10.3122/jabfm.2010.02.090234

Mayer, O.H., et al. (2025). Pectus excavatum: Etiology and evaluation. UpToDate.

Mayer, O.H., et al. (2025). Pectus excavatum: Treatment. UpToDate.

Nuchtern, J. G., & Mayer, O. H. (2025). Pectus carinatum and arcuatum. UpToDate.

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

Omanik, P., et al. (2024). Bracing of pectus carinatum in children: Current practices. Children, 11(4), 470. https://www.mdpi.com/2227-9067/11/4/470

Oregon Health Authority. 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

Oregon Health Authority. The Health Evidence Review Commission (HERC) Prioritized List of Health Services https://www.oregon.gov/oha/HSD/OHP/Pages/Prioritized-List.aspx

Tabard-Fougère, A., et al. (2026). External Haller index evaluation in pectus excavatum. Journal of Pediatric Surgery. https://www.jpedsurg.org/article/S0022-3468(26)00104-1/fulltext

van Braak, H., et al. (2024). Ravitch surgery or dynamic compression bracing for pectus carinatum. Annals of Thoracic Surgery, 117(1), 144–150

van Braak, H., et al. (2025). Improving quality of life with dynamic compression bracing. Journal of Pediatric Surgery, 60(1). https://www.jpedsurg.org/article/S0022-3468(24)00912-6/fulltext

Zeineddine, R. M., et al. (2024). Does a high Haller index influence outcomes in pectus excavatum repair? Journal of Thoracic and Cardiovascular Surgery. https://www.jtcvs.org/article/S0022-5223(24)00292-7/fulltext

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:** 9/1/2027

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.

OPs Approval: 7/2026