

Pectus Excavatum and Carinatum Treatment

Effective: July 1, 2024

Next Review: May 2025

Last Review: May 2024

IMPORTANT REMINDER

Medical Policies are developed to provide guidance for members and providers regarding coverage in accordance with contract terms. Benefit determinations are based in all cases on the applicable contract language. To the extent there may be any conflict between the Medical Policy and contract language, the contract language takes precedence.

PLEASE NOTE: Contracts exclude from coverage, among other things, services or procedures that are considered investigational or cosmetic. Providers may bill members for services or procedures that are considered investigational or cosmetic. Providers are encouraged to inform members before rendering such services that the members are likely to be financially responsible for the cost of these services.

DESCRIPTION

Pectus excavatum, commonly referred to as "funnel chest," is a chest wall malformation in which the sternum is depressed inward, causing midline narrowing of the thoracic cavity. In contrast, pectus carinatum describes a deformity in which there is protrusion of the anterior chest wall.

MEDICAL POLICY CRITERIA

- I. Surgical repair of pectus excavatum may be considered **medically necessary** in children or adults when at least two of the following medical necessity criteria are met:
 - A. Documented progression of the deformity with associated symptoms.
 - B. Pulmonary function studies indicate components of restrictive airway disease.
 - C. Haller index greater than 3.25 at end-inspiration. This Haller index is the ratio derived from a chest CT or magnetic resonance imaging (MRI) scan by dividing the transverse diameter by the anterior-posterior diameter.
 - D. Cardiac evaluation (electrocardiogram [EKG], chest CT, and/or echocardiogram) demonstrates compression-caused mitral valve prolapse, abnormal rhythm, conduction abnormalities, or significant cardiac deformity.

- II. Surgical repair of pectus excavatum that does not meet at least two of the criteria in I.A. – I. D. above is considered **not medically necessary**.
- III. Surgical repair of pectus carinatum is considered **not medically necessary**.
- IV. The use of orthotic braces for the treatment of pectus carinatum is considered **not medically necessary**.

NOTE: A summary of the supporting rationale for the policy criteria is at the end of the policy.

CROSS REFERENCES

1. [Cosmetic and Reconstructive Surgery](#), Surgery, Policy No. 12

BACKGROUND

Although pectus excavatum may be visually prominent, in most cases the loss of volume is not significant and does not interfere with ventilation. Pectus excavatum is occasionally associated with upper or lower airway obstruction; however, when this condition is successfully treated or resolves spontaneously, the pectus deformity may lessen or disappear. Pectus excavatum may also be associated with segmental bronchomalacia, and in some patients, cardiac function may be adversely affected. In many children, the heart is shifted leftward, and in the rare patient, cardiac function may be adversely affected.

Surgical correction of pectus excavatum is not physiologically beneficial for the vast majority of patients; surgery is most often sought due to psychological and cosmetic concerns. However, for some patients with extreme deformity, operative interventions may be indicated for functional reasons.

Pectus carinatum may also be visually prominent but is not generally associated with any respiratory or cardiac functional deficits, and surgery and bracing are typically requested for psychological and cosmetic concerns.

SUMMARY

There is enough research to show that surgical repair of pectus excavatum may improve health outcomes for individuals with the severity and functional impairment outlined in the policy criteria. Therefore, surgical repair of pectus excavatum may be considered medically necessary to when policy criteria are met.

Surgical repair of pectus excavatum is not clinically needed when the severity and functional impairment outlined in the policy criteria are not demonstrated. Therefore, when policy criteria are not met, surgical repair of pectus excavatum is considered not medically necessary.

Surgical repair or bracing of pectus carinatum is not clinically needed, as the condition is not associated with functional impairment that requires surgical intervention. Therefore, surgical repair or bracing of pectus carinatum is considered not medically necessary.

REFERENCES

None

CODES

Codes	Number	Description
CPT	21740	Reconstructive repair of pectus excavatum or carinatum; open
	21742	Reconstructive repair of pectus excavatum or carinatum; minimally invasive approach (Nuss procedure), without thoracoscopy
	21743	Reconstructive repair of pectus excavatum or carinatum; minimally invasive approach (Nuss procedure), with thoracoscopy
HCPCS	L1320	Thoracic, pectus carinatum orthosis, sternal compression, rigid circumferential frame with anterior and posterior rigid pads, custom fabricated
	L1499	Spinal orthosis, not otherwise specified

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