MASSACHUSETTS

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Medical Policy

Vertical Expandable Prosthetic Titanium Rib

Table of Contents

Policy Number: 305

BCBSA Number: 7.01.110 (For Plan internal use only)
NCD/LCD: N/A

Related Policies

Orthotics for Progressive Scoliosis, #550

Policy

Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity Medicare HMO Blue[SM] and Medicare PPO Blue[SM] Members

Use of the vertical expandable prosthetic titanium rib may be considered **MEDICALLY NECESSARY** in the treatment of progressive thoracic insufficiency syndrome due to rib and/or chest wall defects in infants and children between 6 months of age and skeletal maturity (about age 14 for girls and age 16 for boys).

Notes:

- Implantation of this device should be performed in specialized centers, given the complexity of these procedures and individuals.
- Preoperative evaluation requires input from a pediatric orthopedist, pulmonologist, and thoracic surgeon. In addition, preoperative evaluation of nutritional, cardiac, and pulmonary function (when possible) is required.

Use of the vertical expandable prosthetic titanium rib for all other conditions, including but not limited to the treatment of scoliosis in individuals without thoracic insufficiency, is considered **INVESTIGATIONAL**.

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℠	Prior authorization is **not required**.
Medicare PPO Blue℠	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.

CPT Codes

There is no specific CPT code for this service.

Description

Vertical Expandable Prosthetic Titanium Rib

While spinal fusion is an approach to treatment in individuals with thoracic insufficiency syndrome, or early-onset scoliosis without thoracic insufficiency syndrome, the procedure may not be successful and may limit growth (lengthening) of the spine.

The vertical expandable prosthetic titanium rib device is a curved rod placed vertically in the chest that helps to stabilize and shape the thoracic cavity. It is positioned either between ribs, or between the ribs and either the spine or pelvis. The vertical expandable prosthetic titanium rib may be described as "rib-based" growth-sparing instrumentation, which is compared with "spine-based" growing rods for Cobb angle correction. The vertical expandable prosthetic titanium rib device is designed to be expanded every 4 to 6 months as growth occurs and to be replaced if necessary. Some patients require multiple devices.

Summary

Description

The vertical expandable prosthetic titanium rib is a curved rod placed vertically in the chest to help shape the thoracic cavity. It is being evaluated in skeletally immature pediatric patients with thoracic insufficiency syndrome to support thorax and lung development, and in pediatric patients with scoliosis without thoracic insufficiency syndrome to slow or correct curve progression.

Summary of Evidence

For individuals who have progressive thoracic insufficiency syndrome due to rib and/or chest wall defects in childhood who receive vertical expandable prosthetic titanium rib thoracoplasty, the evidence includes case series. Relevant outcomes are symptoms, morbid events, functional outcomes, and treatment-related mortality and morbidity. Results from case series reported at different specialty centers have demonstrated improvement and/or stabilization in key measures with use of the vertical expandable prosthetic titanium rib in progressive thoracic insufficiency syndrome. This improvement has been noted in measures related to thoracic structure (eg, Cobb angle for those with scoliosis), growth of the thoracic spine and lung volumes, and stable or improved ventilatory status. While pulmonary function testing is difficult to track in patients suffering with thoracic insufficiency syndrome, a study has demonstrated an age-specific increase in forced vital capacity (FVC); further still, that same study reported a final FVC in the range of 50% to 70% of predicted value. Given the usual disease course of worsening thoracic volume and ventilatory status, the stabilization and/or improvement in the clinical measures outlined above would be highly unlikely if not for the intervention. Taken together, these outcomes demonstrate the positive impact of using the vertical expandable prosthetic titanium rib technology. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with early-onset scoliosis without thoracic insufficiency syndrome who receive vertical expandable prosthetic titanium rib thoracoplasty, the evidence includes a non-randomized controlled study, an uncontrolled cohort study, and a case series. Relevant outcomes are symptoms, morbid events, functional outcomes, and treatment-related mortality and morbidity. The vertical expandable prosthetic titanium rib is being evaluated for curves greater than 45° in infants and juveniles without thoracic insufficiency. Similar to thoracic insufficiency syndrome, limited data are available on the use of the vertical expandable prosthetic titanium rib for early-onset scoliosis without thoracic insufficiency. Additionally, little is known about the disease progression of early-onset scoliosis, and therefore little is known regarding the risk-benefit trade-off of the vertical expandable prosthetic titanium rib surgery. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Policy History

Date	Action
6/2023	Annual policy review. Minor editorial refinements to policy statements; intent unchanged.
6/2022	Annual policy review. Description, summary, and references updated. Policy statements unchanged.
5/2021	Annual policy review. Description, summary, and references updated. Policy statements unchanged.
6/2020	Annual policy review. Description, summary, and references updated. Policy statements unchanged.
5/2019	Annual policy review. Description, summary, and references updated. Policy statements unchanged.
12/2016	Annual policy review. New references added.
7/2015	Annual policy review. New references added.
1/2014	Removed ICD-9 procedure code 78.51 as it does not meet the intent of the policy.
6/2013	Annual policy review. New references added.
11/2011-4/2012	Medical policy ICD 10 remediation: Formatting, editing and coding updates. No changes to policy statements.
6/1/2011	New policy effective 6/1/2011 describing covered and non-covered indications.
6/2011	Reviewed - Medical Policy Group – Orthopedics, Rehabilitation and Rheumatology. No changes to policy statement.

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

References

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