Medical Policy:

Vertical Expandable Prosthetic Titanium Rib

POLICY NUMBER	LAST REVIEW
MG.MM.SU.67C7	March 8, 2024

Definitions

Vertical expandable prosthetic titanium rib (VEPTR)	Curved rod placed horizontally in the chest to shape the thoracic cavity for the treatment of spinal and thoracic deformities. In 2014, the FDA Center for Devices and Radiological Health (CDRH) cleared the VEPTR®-VEPTR II™ device for use in skeletally immature patients with severe, progressive spinal deformities and/or three-dimensional deformity of the thorax associated with, or at risk of, **Thoracic Insufficiency Syndrome (TIS)**.
Cobb angle	Measurement of the degree of spinal curvature; the Cobb angle is considered the standard measurement to quantify a scoliosis for the purpose of measuring curve progression over time. A curve is considered to be scoliosis at a Cobb angle of ≥ 10º. Any increase ≥ 5º is regarded as a significant change; indicative of curvature progression with scoliosis considered mild at 10º–24º, moderate at 25º–50º and severe at > 50º in skeletally mature individuals. Cobb angles > 45º are considered severe in skeletally immature persons.
Ellis-van Creveld syndrome	Autosomal recessive genetic disorder characterized by skeletal dysplasia.
Hypoplastic thorax syndrome	Examples of the syndrome include achondroplasia, Ellis van Creveld syndrome, Jarcho-Levin syndrome and Jeune's syndrome.

Jarcho-Levin syndrome	Heritable axial skeleton growth disorder associated with malformation of the vertebral column and ribs.
Jeune syndrome	Congenital dwarfism associated with asphyxiating thoracic dystrophy.
Scoliosis	Musculoskeletal condition characterized by an abnormal lateral curvature of the spine. There are several different types of scoliosis that affect children and adolescents. The most common type is considered idiopathic but additional types of scoliosis include congenital, neuromuscular and syndromic scoliosis.
Thoracic Insufficiency Syndrome (TIS)	Rare condition defined as, "The inability of the thorax to support normal respiration or lung growth. This would include patients with progressive congenital, neuromuscular, idiopathic, or syndromic scoliosis" (FDA, 2014). TIS may include flail chest syndrome, **hypoplastic thorax syndrome**, as well as rib fusion and scoliosis.

Related Medical Guideline

Related Medical Guideline

Surgical Correction of Chest Wall Deformities

Guideline

The VEPTR is 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.

Rib/chest wall defects may be secondary to any of the following scoliosis conditions:

1. Congenital scoliosis
2. Neuromuscular scoliosis
3. Infantile and juvenile idiopathic scoliosis
4. Syndromic scoliosis

Limitations and Exclusions

1. Use of VEPTR for any condition other than those listed above (including Poland Syndrome) is not considered medically necessary due to insufficient evidence of therapeutic value.
2. Use of VEPTR as a scoliosis treatment in the absence of TIS (or risk for TIS) is not considered medically necessary.

Procedure Codes

20999	Unlisted procedure, musculoskeletal system, general
21899	Unlisted procedure, neck or thorax

Diagnosis Codes

M41.00	Infantile idiopathic scoliosis, site unspecified
M41.02	Infantile idiopathic scoliosis, cervical region

M41.03	Infantile idiopathic scoliosis, cervicothoracic region
M41.04	Infantile idiopathic scoliosis, thoracic region
M41.05	Infantile idiopathic scoliosis, thoracolumbar region
M41.06	Infantile idiopathic scoliosis, lumbar region
M41.07	Infantile idiopathic scoliosis, lumbosacral region
M41.08	Infantile idiopathic scoliosis, sacral and sacrococcygeal region
M41.11	Juvenile idiopathic scoliosis, cervical region
M41.112	Juvenile idiopathic scoliosis, cervicothoracic region
M41.113	Juvenile idiopathic scoliosis, cervicothoracic region
M41.114	Juvenile idiopathic scoliosis, thoracic region
M41.115	Juvenile idiopathic scoliosis, thoracolumbar region
M41.116	Juvenile idiopathic scoliosis, lumbar region
M41.117	Juvenile idiopathic scoliosis, lumbosacral region
M41.119	Juvenile idiopathic scoliosis, site unspecified
M41.40	Neuromuscular scoliosis, site unspecified
M41.41	Neuromuscular scoliosis, occipito-atlanto-axial region
M41.42	Neuromuscular scoliosis, cervical region
M41.43	Neuromuscular scoliosis, cervicothoracic region
M41.44	Neuromuscular scoliosis, thoracic region
M41.45	Neuromuscular scoliosis, thoracolumbar region
M41.46	Neuromuscular scoliosis, lumbar region
M41.47	Neuromuscular scoliosis, lumbosacral region
Q67.5	Congenital scoliosis NOS
Q76.3	Congenital scoliosis due to congenital bony malformation

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Revision History

Company(ies)	DATE	REVISION
ConnectiCare	Feb. 2021	ConnectiCare adopts the clinical criteria of its parent corporation EmblemHealth