Definitions:

**Scoliosis**
A congenital lateral curvature of the spine

**Spinal fusion**
In spinal fusion for Scoliosis rods, hooks, wires, or screws are attached to the curved part of the backbone and the spine is straightened. Small pieces of bone are then put over the spine. The bone pieces will grow together with the spinal bone, fusing it into the proper position. Spinal fusion is major surgery that usually takes several hours to complete. Although the basic procedure is the same, a variety of specialized techniques can be used to do spinal fusion. Many different types of spinal instrumentation are used to treat scoliosis. Also, techniques vary, from what type of hooks or rods are used to whether the surgery is done from the front of the body or from the back. The method chosen will depend on a number of things, including the child's age, spinal maturity, the location and severity of the curve, the clinical opinion of the surgeon, and the preference of the child and parents. The surgical technique most often used to straighten and stabilize the spine is to do surgery from the back, called the posterior approach. Another option is to do the surgery from the front of the body, called the anterior approach.

**Policy:** Scoliosis may be classified as functional or structural. Functional scoliosis may be transient or fairly persistent, but is not associated with any structural alterations. Structural scoliosis involves a fixed lateral curve with rotation, and is associated with many conditions including neuropathic diseases/disorders such as cerebral palsy, poliomyelitis, and muscular dystrophy; congenital causes such as failure of formation or segmentation, and myelomeningocele; traumatic causes such as fracture or dislocation (non-paralytic) and post-radiation; soft tissue contractures such as post-empyema and burns; osteochondrodystrophies such as achondroplasia and spondyloepiphyseal dysplasia; tumor; and rheumatoid disease. However, the most common type of structural scoliosis is idiopathic scoliosis. Although idiopathic scoliosis is thought to have a genetic predisposition, its exact cause is still unknown.
Idiopathic scoliosis can be further divided into 3 categories: (i) infantile (0 to 3 years of age), (ii) juvenile (3 to 9 years of age), and (iii) adolescent (10 years of age to maturity). Idiopathic scoliosis most frequently affects young girls. The spinal curvature that persists after skeletal maturity is termed adult scoliosis.

The traditional treatment for adolescent idiopathic scoliosis is the use of a supportive brace, and it is the primary treatment for idiopathic scoliosis. Standard scoliosis braces include the Milwaukee brace and the Boston brace. Torsos exercises to increase muscle strength have been used in conjunction with braces, but there is inadequate evidence to support this. Since bracing is restrictive and must be worn 23 hours a day for up to several years, non-compliance has been estimated to be 20 to 50% (Moe and Kettelson, 1970). Additionally, this method is associated with side effects such as anxiety, depression, and sleep disturbance.

The peer-reviewed medical literature suggest that surgery is indicated for growing children whose curve has exceeded 40 degrees; for individuals of any age whose curve is greater than 50 degrees; individuals with scoliosis-related pain that is refractory to conservative treatments; and patients with thoracic lordosis that can't be treated conservatively.

**Procedure:** Meridian Health Plan (MHP) considers surgery (e.g., spinal fusion with instrumentation and bone grafting) for the treatment of idiopathic scoliosis medically necessary for any of the following conditions:

1. An increasing curve (greater than 40 degrees) in a growing child who is skeletally immature; *or*
2. Scoliosis related pain that is refractory to conservative treatments; *or*
3. Severe deformity (curve greater than 50 degrees) with trunk asymmetry in children and adolescents and or associated with functional impairment in skeletally mature adolescents or adults; *or*
4. Thoracic lordosis that cannot be treated conservatively.

When these criteria are not met, idiopathic scoliosis surgery is considered experimental and investigational.

5. MHP considers growing rods technique medically necessary in the treatment of idiopathic scoliosis for persons who meet criteria for surgery above. *Note:* Please note this does not apply to the expandable magnetic growing rod (Phoenix Growing Rod device) which is currently considered investigational and experimental. Scoliosis braces and casts
   a. MHP considers the following types of braces and casts medically necessary DME for the treatment of scoliosis:
      1. Boston scoliosis brace
      2. Charleston scoliosis brace
      3. Milwaukee scoliosis brace
      4. Providence brace
      5. Rigo-Cheneau brace
      6. Risser jacket
      7. Standard thoracolumbrosacral orthosis orthosis (TLSO).
   b. MHP considers the following types of scoliosis braces experimental and investigational because their effectiveness has not been established:
      1. Copes scoliosis brace
      2. Rosenberger brace
      3. SpineCor Dynamic Corrective Brace.

6. MHP considers spinal unloading devices (e.g., LTX 3000, Orthotrac) experimental and investigational for treatment of scoliosis because their effectiveness has not been established.

7. MHP considers vertebral body stapling and vertebral body tethering experimental and investigational for the treatment of scoliosis because its effectiveness has not been established.
8. MHP considers resistive exercises experimental and investigational for the treatment of scoliosis because their effectiveness for this indication has not been established.

9. MHP considers spinal manipulation experimental and investigational for the treatment of adult scoliosis because its effectiveness for this indication has not been established.

10. MHP considers whole body vibration experimental and investigational for the treatment of scoliosis because its effectiveness has not been established.

11. MHP considers ScoliScore and other genetic testing (e.g., the CHD7 gene, the matrilin-1 gene (MATN1) and the transforming growth factor beta 1 (TGFB1) gene; not an all-inclusive list) experimental and investigational for predicting progression of adolescent idiopathic scoliosis because their effectiveness has not been established.

12. MHP considers the following interventions for the treatment of scoliosis experimental and investigational because their effectiveness has not been established:
   a. The CLEAR protocol (The CLEAR protocol for treating scoliosis consists of 3 components: (i) Mix, (ii) Fix, and (iii) Set. The objective of the first part of the protocol (Mix) is to warm up the spine, and prepare it for the rest of the treatment. In this portion of the protocol the patient performs several activities to warm up and loosen up the spine. These activities include the wobble chair, and different tractioning devices designed put motion into the spine. The second part of the treatment protocol (Fix) entails chiropractic adjustments. Chiropractors also perform other modalities that begin to cause correction of the spinal curvatures. During the last part of the program (Set), the patient receives several treatments that are designed to stabilize the spine in a more corrected position. (http://www.clear-institute.org/TheCLEARScoliosisMethod/tabid/876/Default.aspx)

   There is currently insufficient evidence that chiropractic or osteopathic manipulation is effective in treating scoliosis.
      1. The inversion table
      2. The magnetically controlled growing rod (Phoenix growing rod)
      3. Sacroiliac fusion.

13. MHP also considers surface electrical muscle stimulators (direct or alternating current, not high-voltage galvanic current) experimental and investigational for the management of idiopathic scoliosis because there is inadequate evidence of its effectiveness and safety in the peer-reviewed published medical literature.

Special Instructions: N/A

Line of Business Applicability:
For Medicaid/Medicaid Expansion Plan members, this policy will apply. Coverage is based on medical necessity criteria being met and the codes being submitted and considered for review being included on either the Michigan Medicaid Fee Schedule (located at: http://www.michigan.gov/mdch/0,1607,7-132-2945_42542_42543_42546_42551-159815--00.html), or the Illinois Medicaid Fee Schedule (located at: http://www.illinois.gov/hfs/MedicalProviders/MedicaidReimbursement/Pages/default.aspx). If there is a discrepancy between this policy and either the Michigan Medicaid Provider Manual (located at: http://www.michigan.gov/mdch/0,1607,7-132-2945_5100-87572--00.html), or the Illinois Medicaid Provider Manual (located at: http://www.illinois.gov/hfs/MedicalProviders/Handbooks/Pages/default.aspx) the applicable Medicaid Provider Manual will govern.

For Medicare members, coverage is determined by the Centers for Medicare and Medicaid Services (CMS). If a coverage determination has not been adopted by CMS, this policy applies. Medicare Fee Schedules can be found on the CMS website (https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/FeeScheduleGenInfo/index.html).

**References:**