Neuromuscular Scoliosis
- Seen in neuromuscular disorders:
  - Deformities may be postural or structural
  - May progress rapidly
  - Deformity may not be evident on initial physical examination
  - Cobb angle >20°, treat with bracing

Juvenile Scoliosis
- Onset age: 1 to pre-puberty
- Diagnosed when 4-9 years old
- Seen in 72-75% scoliosis cases
- Commonly progresses
- Risk higher in females
- In 25% cases, there is intraspinal pathology
- Assess same as with adolescent idiopathic scoliosis
- Note café-au-lait spots
- Assess flexibility and limits to bracing
- Consider MRI of spine to rule out intraspinal anomalies

Congenital Scoliosis
- Lateral curvature of spine caused by vertebral anomalies
- May have associated renal and cardiac anomalies
- Renal ultrasound recommended
- Pubic crest evaluation may not be detectable until later in life
- Some anomalies never produce deformity and are never detected
- CT with 3D reconstruction best assessment tool for surgical planning

Infantile Scoliosis
- In children under 3 years it may be idiopathic
- Thought to be positional deformity because it is often associated with platyspondylia and hip dysplasia
- Usually spontaneous resolution occurs when age > 20
- In some cases, it is secondary to underlying spinal pathology; these curves progress
- If Cobb angle >20°, treat with bracing

Adolescent Idiopathic Scoliosis
- Adolescent (10 years to end of growth)
- Most common type (80-90%)
- Frequency 1.9-3% (25 in 1,000)
- Typically right side thoracic curve, left lumbar if 2nd curve
- Underlying etiology unclear
- Family history in 30%
- No specific gene or mode of inheritance identified
- Females: more severe forms, males: 25% incidence intrathecal abnormalities
- Future growth potential
- Curve magnitude and progression
- Progression of 5° or more often coincides with growth spurt of puberty
- Larger curves more likely to progress
- Consider MRI of spine to rule out intraspinal anomalies
- Scoliometer reading over vertebral prominences
- Skin assessment
- Focused neurological exam
- Scoliosis gait assessment

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Assessing Scoliosis
- Scoliosis is a lateral curvature of the spine >13° by Cobb method accompanied by vertebral rotation
- Most common pediatric disorder of the spine
- Idiopathic, Infantile, Juvenile, Adolescent
- Congenital
- Neuromuscular
- Connective tissue
- Degenerative (adults)
- Scoliosis is associated with syndromes such as Marfan's

Neuromuscular Scoliosis
- Seen in neuromuscular disorders:
  - Deformities may be postural or structural
  - May progress rapidly
  - Duchenne muscular dystrophy
  - Spinal muscular atrophy
  - Cerebral Palsy
  - Myelodysplasia
  - Traumatic paralysis
  - Research has not proven that bracing is effective but may be helpful in positioning

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