



OPZ250 Mesleki Yabancı Dil I

11.hafta

Reference Review And Discussion  
On Orthoses  
&  
Klippel-Feil Syndrome

Prof. Dr.Serap Alsancak

Doç. Dr. Senem Güner

**Dr. Öğr. Gör. Enver Güven**

Öğr. Gör. Ali Reza Vasefmia

# Reference Review And Discussion On Orthoses



## Klippel-Feil Syndrome

Robert J. Rinaldi MD 26

### *Description*

Klippel-Feil Syndrome is a heterogeneous collection of clinical findings all unified by the presence of congenital synostosis of some or all cervical vertebrae.

### *Clinical Features*

- \_Characteristic triad including short neck, low hairline, and limited cervical mobility in 50%
- \_Fusion of one or multiple cervical levels
- \_Broad spectrum of associated findings, including the following:
  - Congenital scoliosis (50%)
  - Torticollis and facial asymmetry (20%–50%)
  - Hearing deficits (30%)
  - Sprengel anomaly (20%–30%)
  - Rib abnormalities (30%)
  - Renal anomalies, major and minor (30%)
  - Synkinesia (30%)
  - Cardiovascular anomalies (15%)
  - Congenital limb deficiencies
  - Craniosynostosis
  - Craniofacial abnormalities
  - Spinal dysraphism
  - Cognitive impairment
  - Genitourinary anomalies

## *Natural History*

- \_May be asymptomatic in minor cases
- \_Risk of cervical disc degeneration, vertebral subluxation, and spinal stenosis with increasing age
- \_Degenerative changes may lead to radicular findings or myelopathies
- \_Cervical instability and hypermobility may develop at interspaces between fused vertebrae
- \_Increased risk of sustaining spinal cord injury with minor and major trauma
- \_Scoliosis may be progressive over time

## *Diagnosis*

### *Differential diagnosis*

- \_Congenital anomalies of C1
- \_Cervical fusions due to juvenile rheumatoid arthritis

## *History*

- \_Limitations in cervical range of motion
- \_Progressive cervical pain
- \_Neurologic changes due to cervical radiculopathy or myelopathy
- \_Progressive congenital scoliosis

## *Red Flags*

- \_Cervical spinal cord injury following minor trauma

## *Treatment*

### *Medical*

- \_Management of associated clinical findings
- \_Bracing of scoliosis

### *Complications*

- \_Progressive neurologic compromise
- \_Progressive scoliosis
- \_Acute spinal cord injury