



CENTRO  
HOSPITALAR  
DE LISBOA  
CENTRAL, EPE

# Paediatric Cervical Sagittal Deformity

**Case series review**

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**Lisbon - Portugal**



- Paediatric cervical abnormalities are rarely found
- Different cases with multiple etiologies
  - Congenital (3)
  - Iatrogenic (1)
  - Infectious (2)

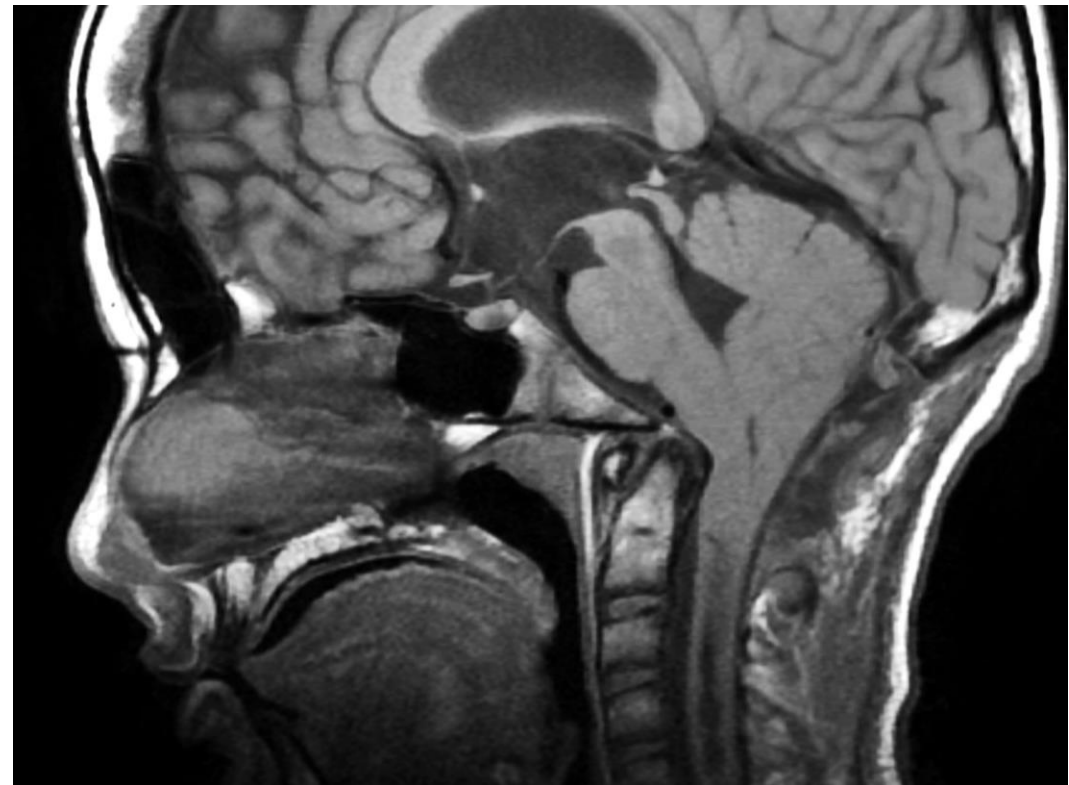


# Post-laminectomy kyphosis

## Case 1

Male, 16 year old, presented with progressive hemiparesis.

Type I Arnold-Chiari malformation → occipital and C1 laminectomy



# Post-laminectomy kyphosis

## Case 1

Male, 16 year old, presented with progressive hemiparesia.

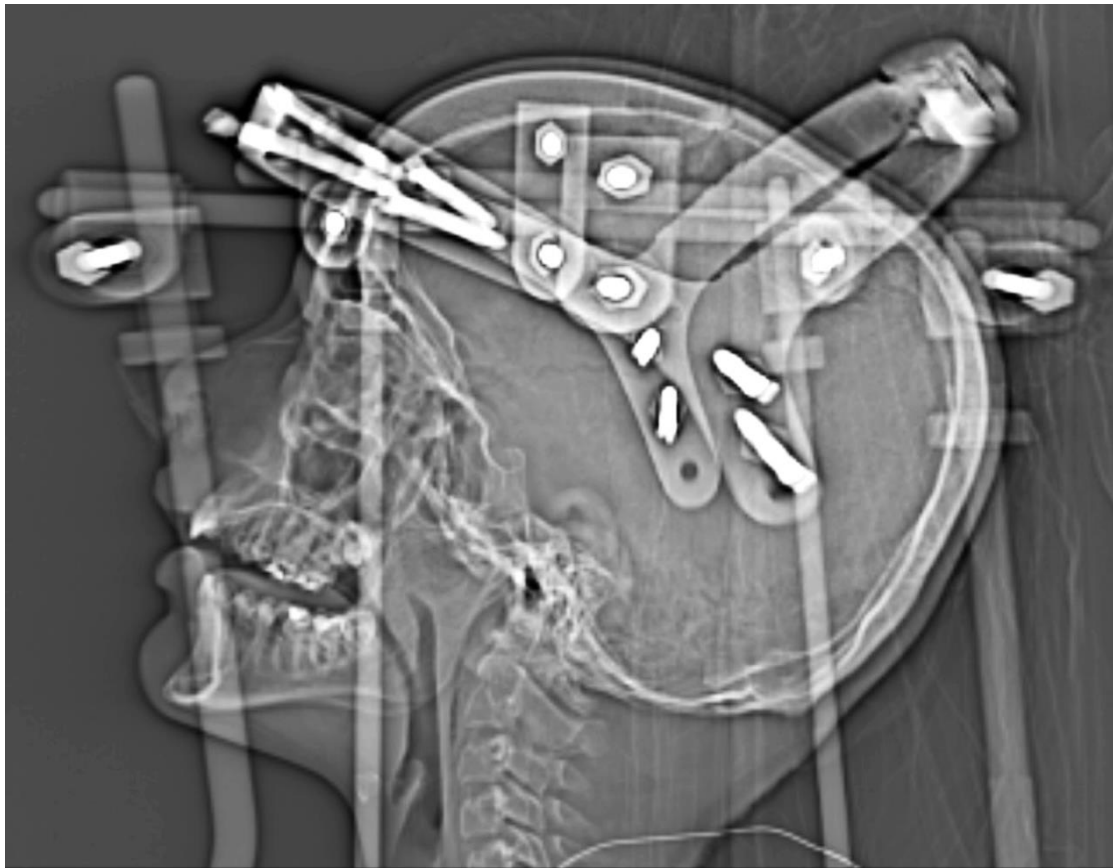
Type I Arnold-Chiari malformation → occipital and C1 laminectomy



# Post-laminectomy kyphosis

## Case 1

Halovest Stabilization and endoscopic odontoidectomy → progressive flexion until horizontal gaze



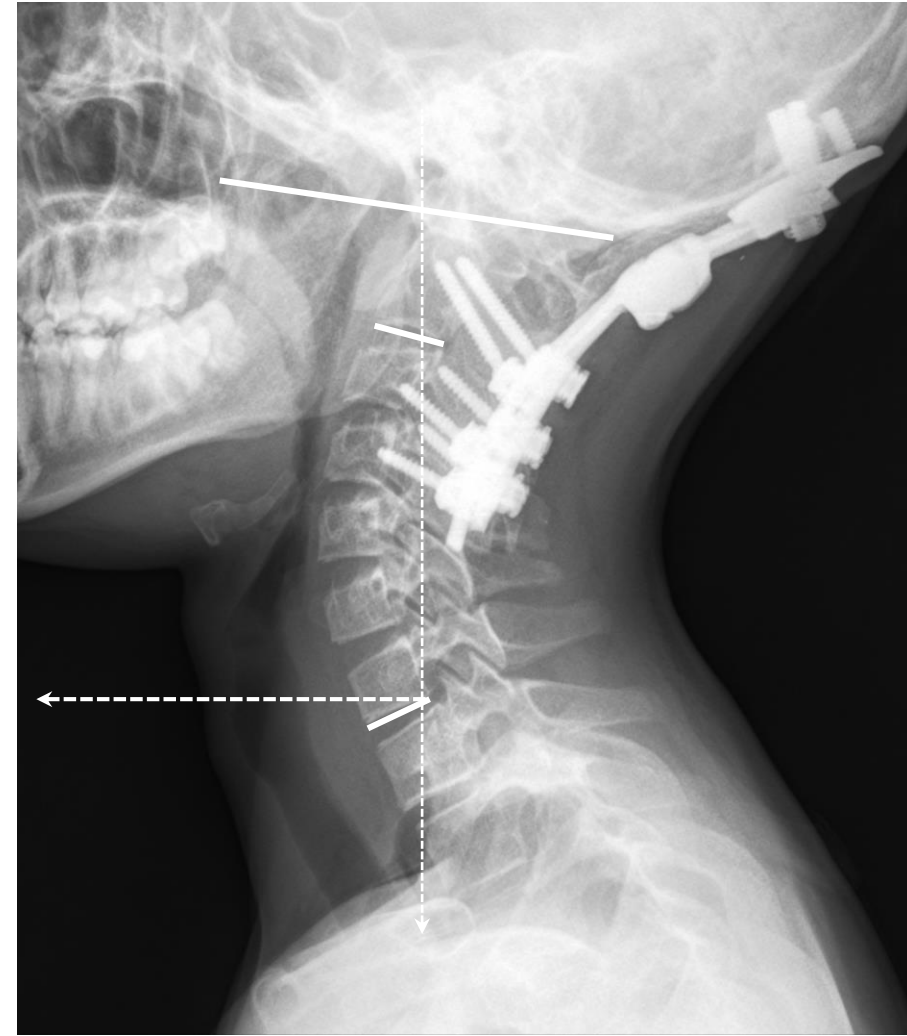
# Post-laminectomy kyphosis

## Case 1

Occipito-cervical fusion (C0-C4), no neurological deficits to report



1 year post op

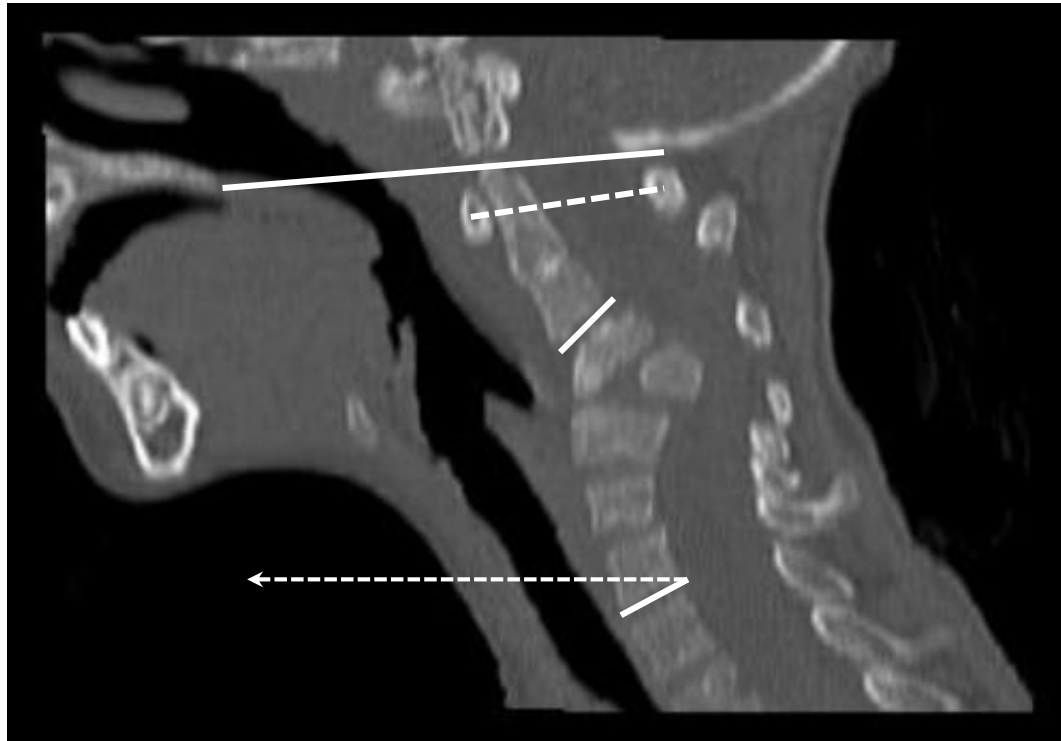


OC<sub>2</sub> 8°  
C<sub>2</sub>C<sub>7</sub> 42°  
C<sub>7</sub>slope 26°

# Cervical hemivertebra

## Case 2

Male, 3 year-old , cervical congenital kyphoscoliosis with hemivertebra (C4). No neurological deficits.



OC<sub>2</sub> 34°  
C<sub>1</sub>C<sub>2</sub> 30°  
C<sub>2</sub>C<sub>7</sub> -12°  
C<sub>1</sub>C<sub>7</sub> 22°  
C<sub>7</sub>slope 28°



# Cervical hemivertebra

## Case 2

Posterior C3-C5 posterior fusion with iliac crest graft and temporary halo-vest



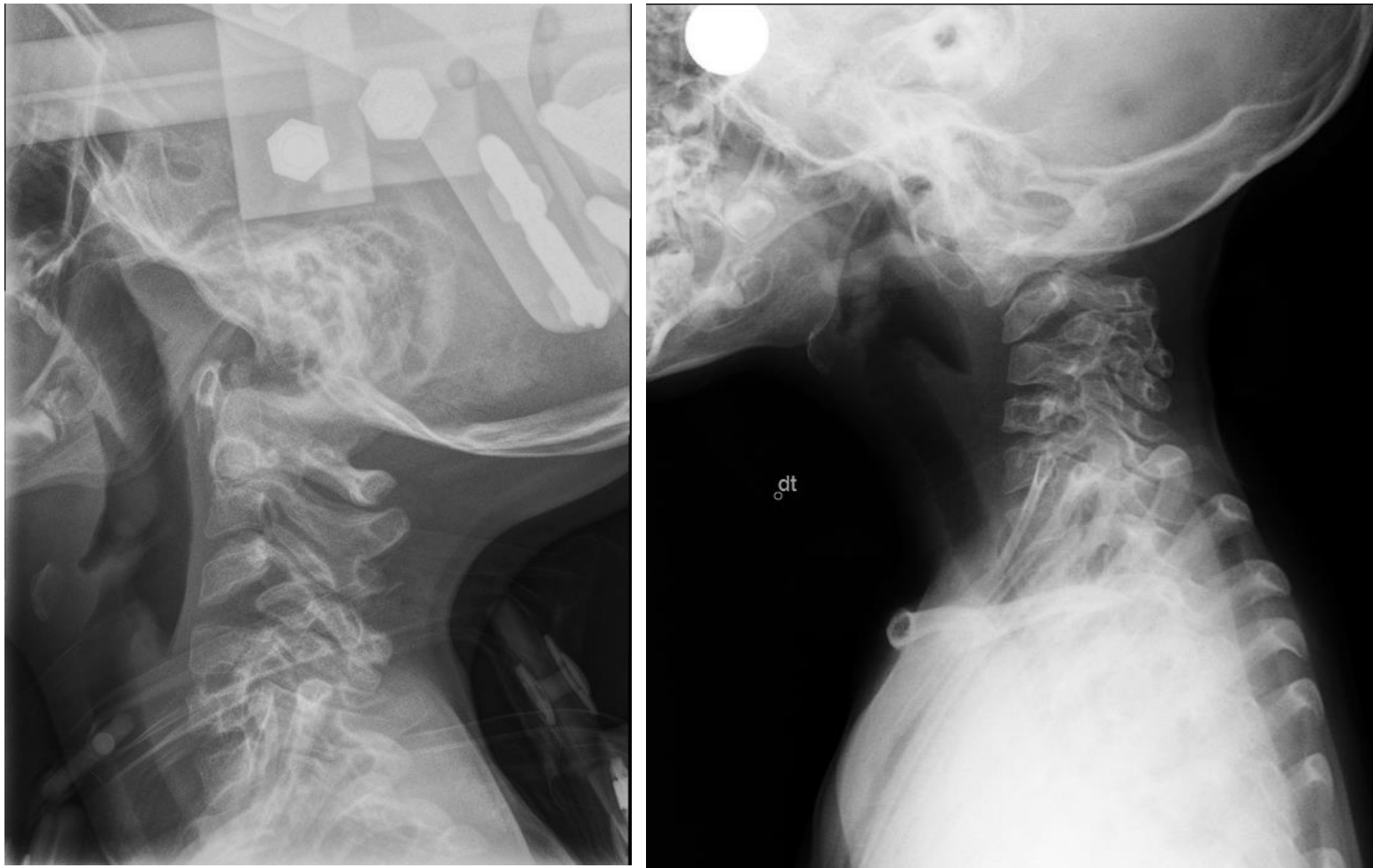
5 months post op



# Cervical hemivertebra

## Case 2

Posterior C3-C5 posterior fusion with iliac crest graft and temporary halo-vest



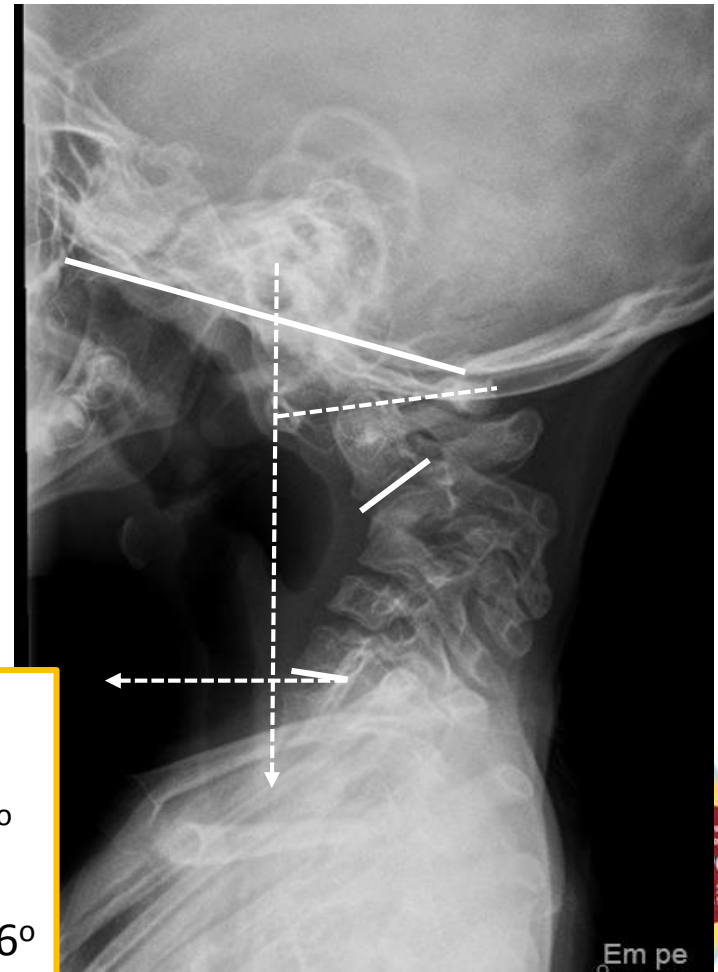
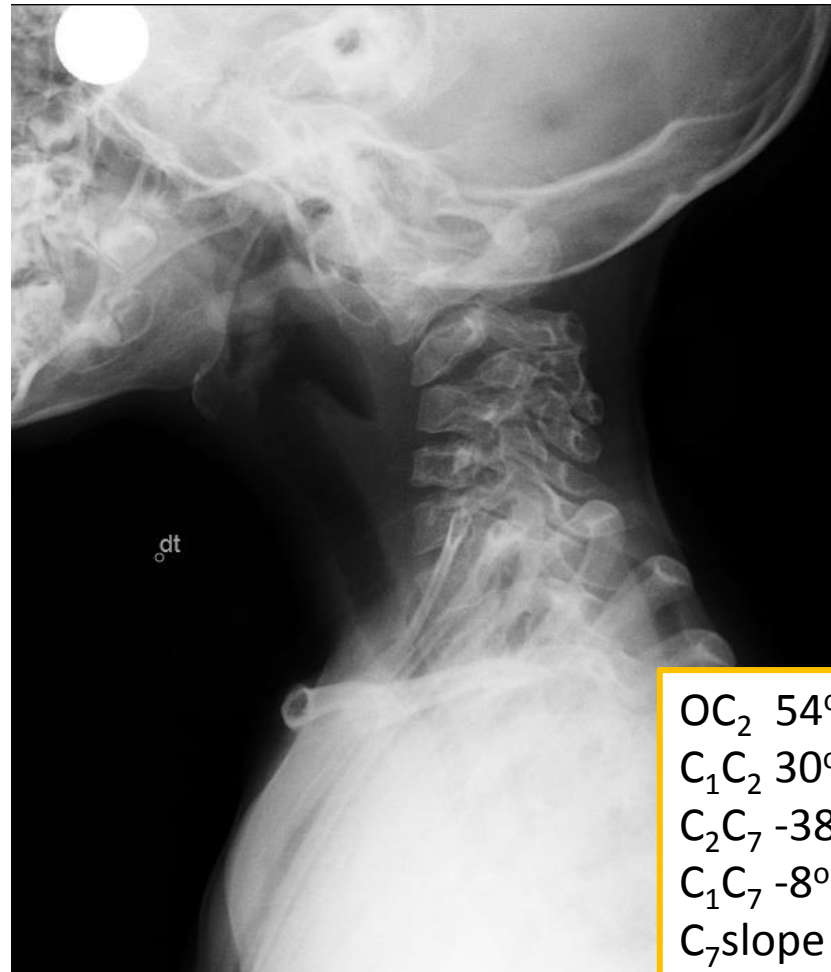
12 months post op

# Cervical hemivertebra

## Case 2

Posterior C3-C5 posterior fusion with iliac crest graft and temporary halo-vest

18 months post op



OC<sub>2</sub> 54°  
C<sub>1</sub>C<sub>2</sub> 30°  
C<sub>2</sub>C<sub>7</sub> -38°  
C<sub>1</sub>C<sub>7</sub> -8°  
C<sub>7</sub>slope 6°



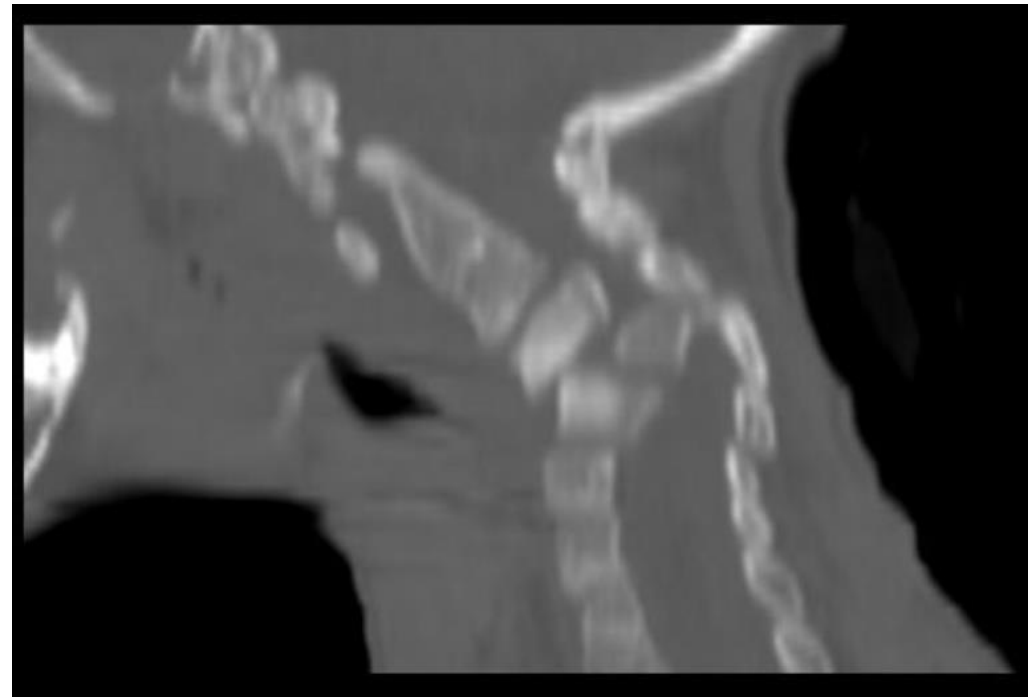
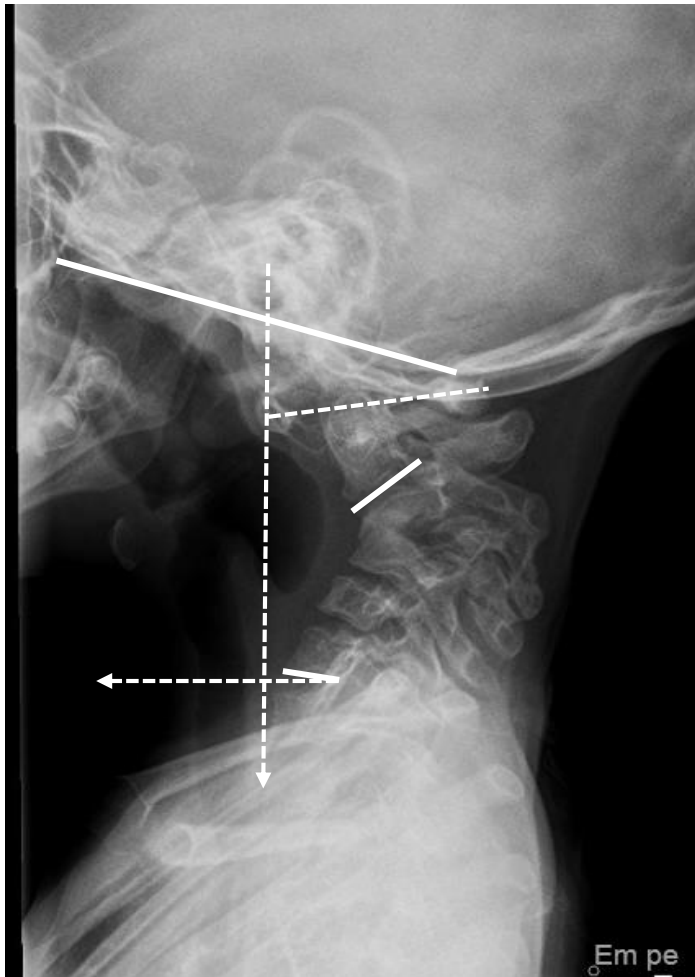
# Cervical hemivertebra

## Case 2

Posterior C3-C5 posterior fusion with iliac crest graft and temporary halo-vest

18 months post op

OC<sub>2</sub> 54°  
C<sub>1</sub>C<sub>2</sub> 30°  
C<sub>2</sub>C<sub>7</sub> -38°  
C<sub>1</sub>C<sub>7</sub> -8°  
C<sub>7</sub>slope 6°



# Cervical hemivertebra

## Case 2

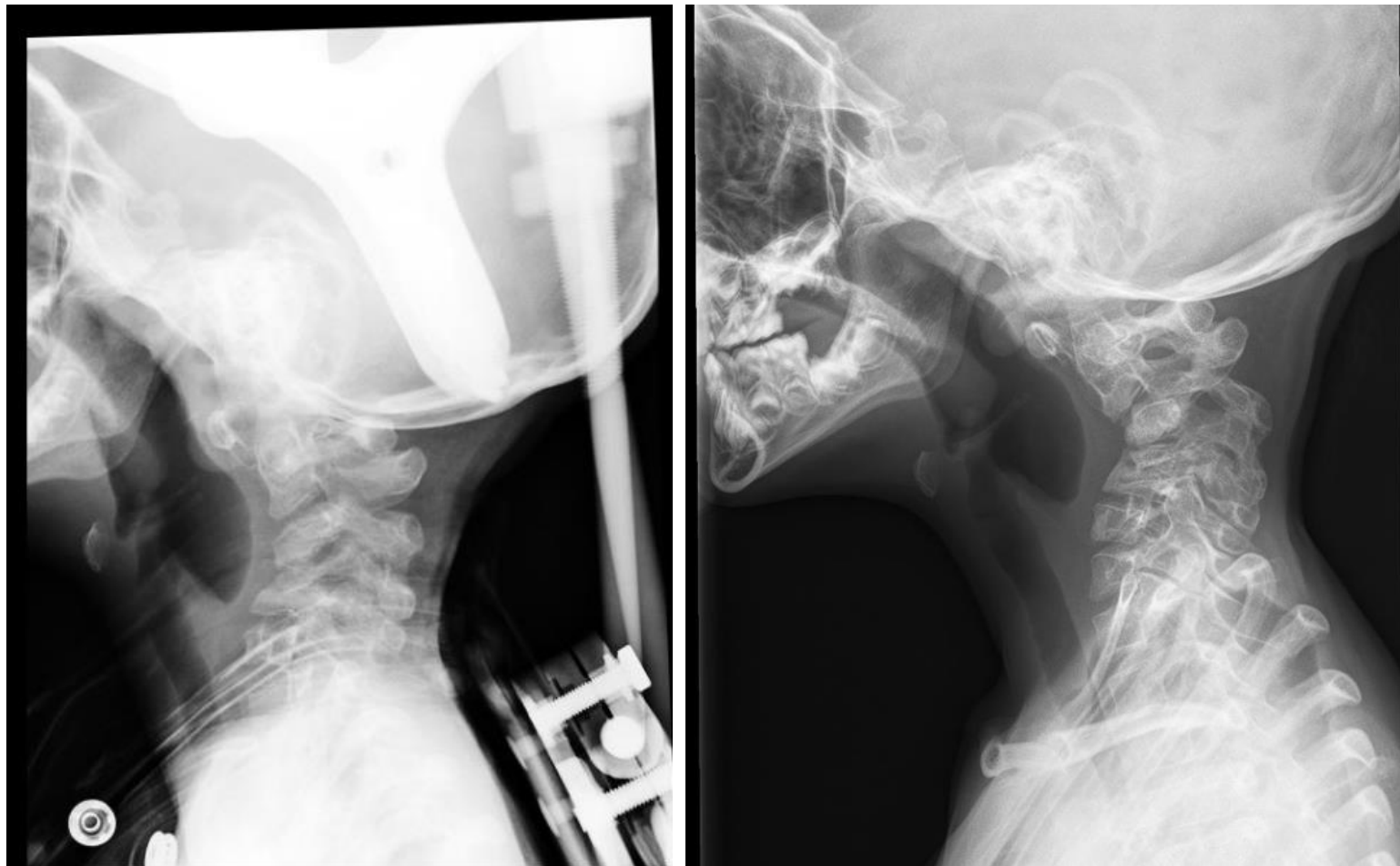
Anterior C4 hemi-corpectomy and C3-C5 fusion with iliac crest graft and temporary halo-vest



# Cervical hemivertebra

## Case 2

Anterior C4 hemi-corpectomy and C3-C5 fusion with iliac crest graft and temporary halo-vest



5 months post op

# Cervical hemivertebra

## Case 2

Anterior C4 hemi-corpectomy and C3-C5 fusion with iliac crest graft and temporary halo-vest

8 months post op

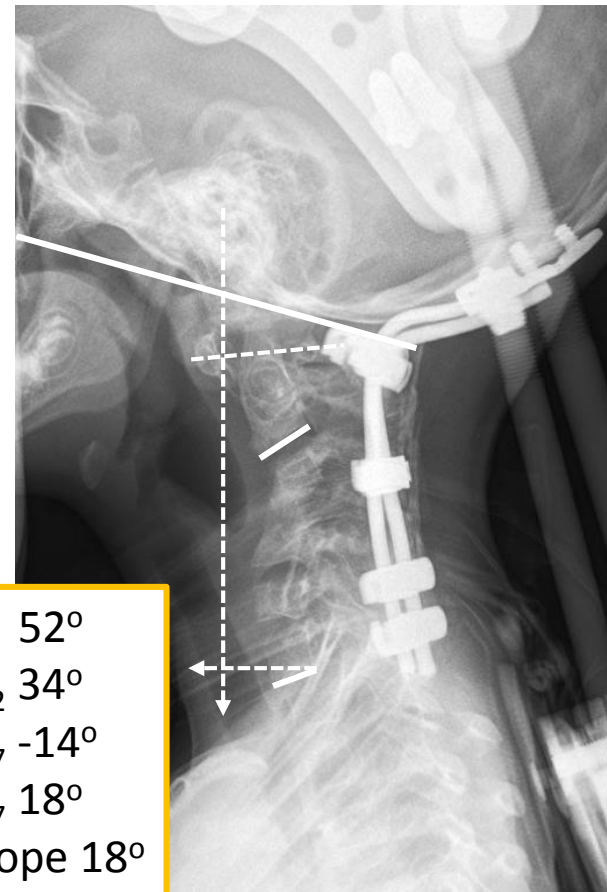
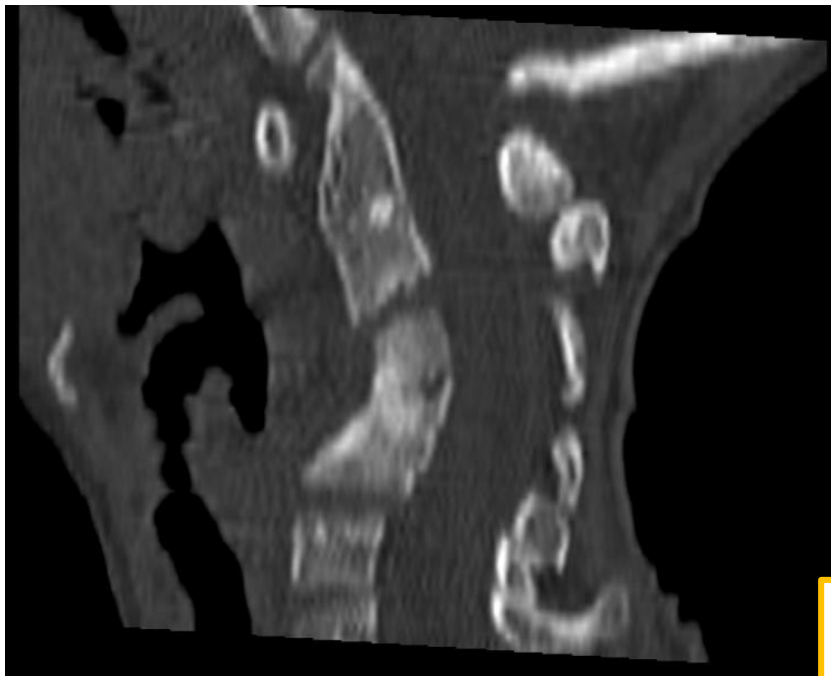


# Cervical hemivertebra

## Case 2

Halo-gravity traction and occipito-cervical fusion was performed

6 months post op



OC<sub>2</sub> 52°  
C<sub>1</sub>C<sub>2</sub> 34°  
C<sub>2</sub>C<sub>7</sub> -14°  
C<sub>1</sub>C<sub>7</sub> 18°  
C<sub>7</sub>slope 18°



# Cervical hemivertebra

## Case 2

7 years post op

$C_1C_2$   $40^\circ$   
 $C_2C_7$   $-22^\circ$   
 $C_1C_7$   $18^\circ$   
 $C_7$  slope  $16^\circ$

