



# Guided Growth System (GGS) in the Treatment of Early Onset Scoliosis - 5 Years Follow-up

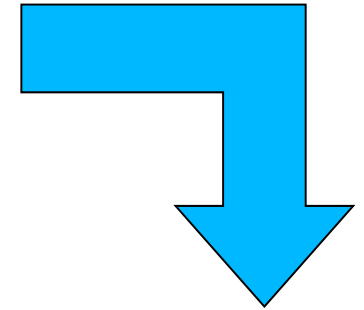
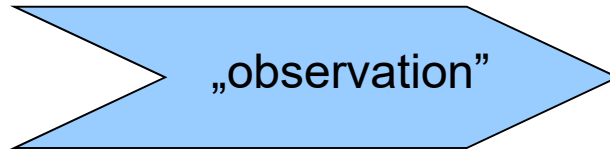
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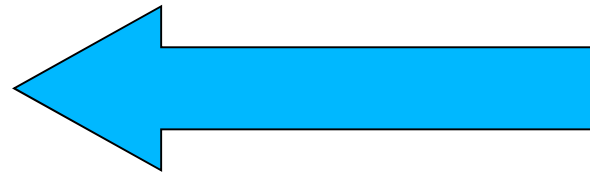
\*\* St. Jadwiga Hospital , Trzebnica Poland

# conflict of interest disclosure

There is no conflict of interest  
for any author



**non- fusion techniques  
based on distractive  
staplers**



**Surgery**

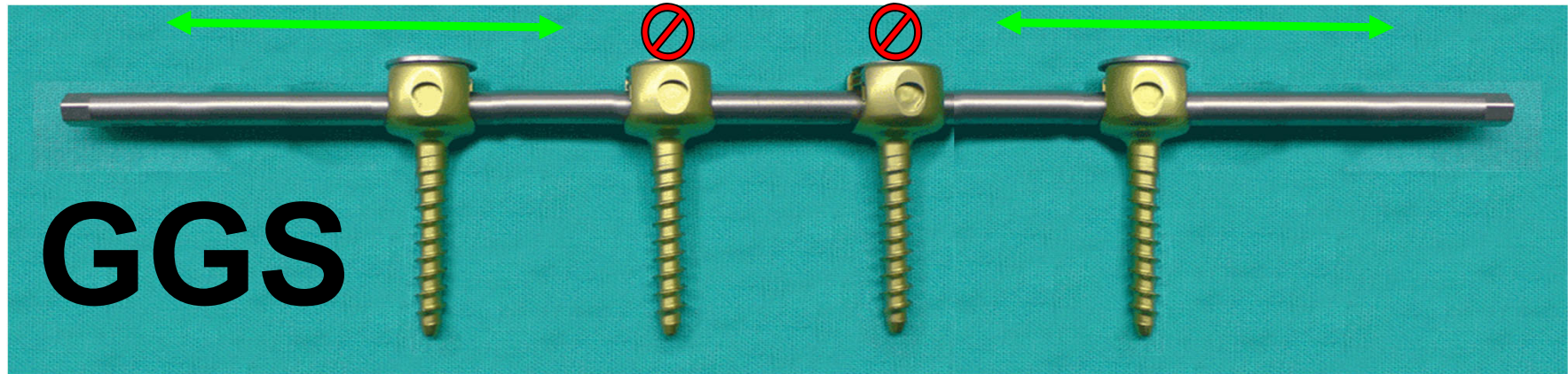


Luque-Trolley- 1977 Luqué and Cardoso,

Shilla Growth Enhancing System

LSZ-4D sliding device

sliding-growing rod technique





## **Project:**

From 2009

**3** countries

**6** hospitals:

Children Orthopaedic Department Medical University Lublin, Poland

St. Jadwiga Hospital , Trzebnica Poland

Orthopaedic Department University Brno, Czech Republic

Children Orthopaedic Department Medical University Bratislava, Slovakia

Orthopaedic Department Medical University Zilina, Slovakia

Children Orthopaedic Department Medical University Cracov, Poland

**97** patients



# Material

- 26 patients: 20 girls and 6 boys
- Etiology: idiopathic
- age 6-14 y-s, mean: 9 (Risser 0)
- curve: 62 to 120 ° (average 77 °)
- The follow up ranged from 1 to 5 years (mean 3,7)

# Method

Efficiency of spinal deformity correction was estimated by:

Cobb angle measurement of the curvature

T1-S1 length

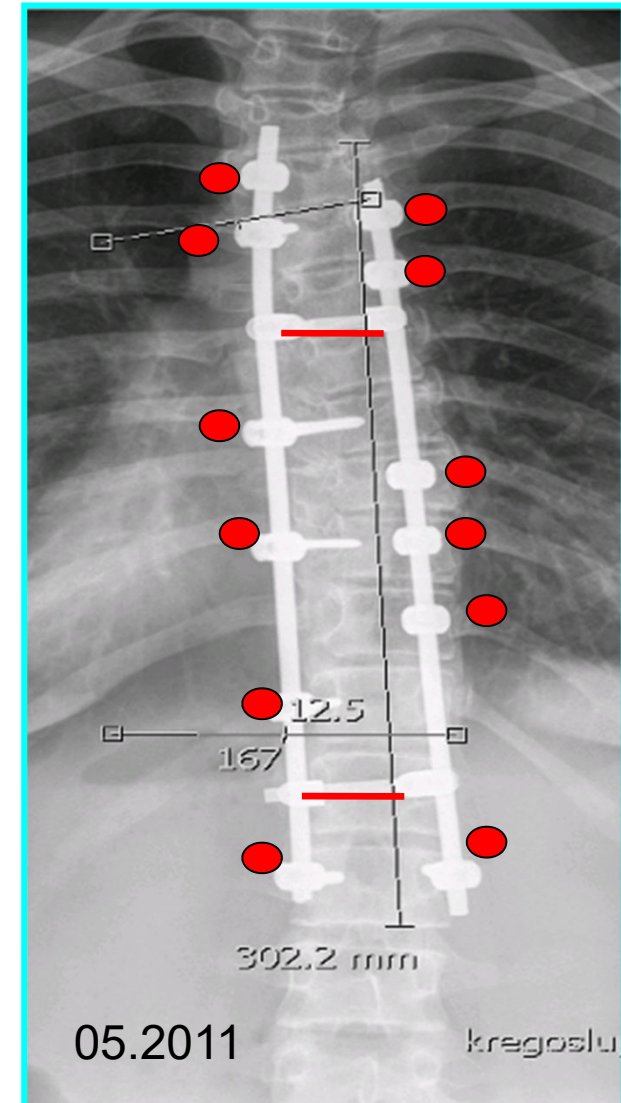
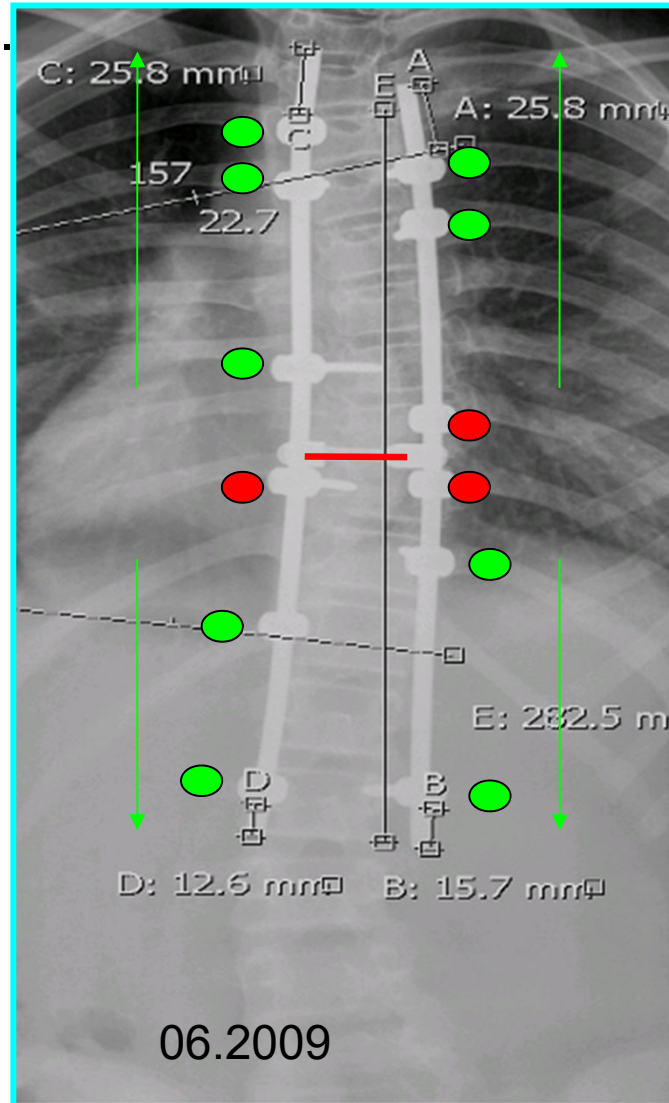
apical vertebral rotation (AVR) 1 / before the operation, 2 / after surgery and 3 / follow up.

# group A 17 children single-curve

## Method

fixating and derotation of the apex of the curve.

Spine was enabled to grow and slide cephalaly and caudally along the rods.

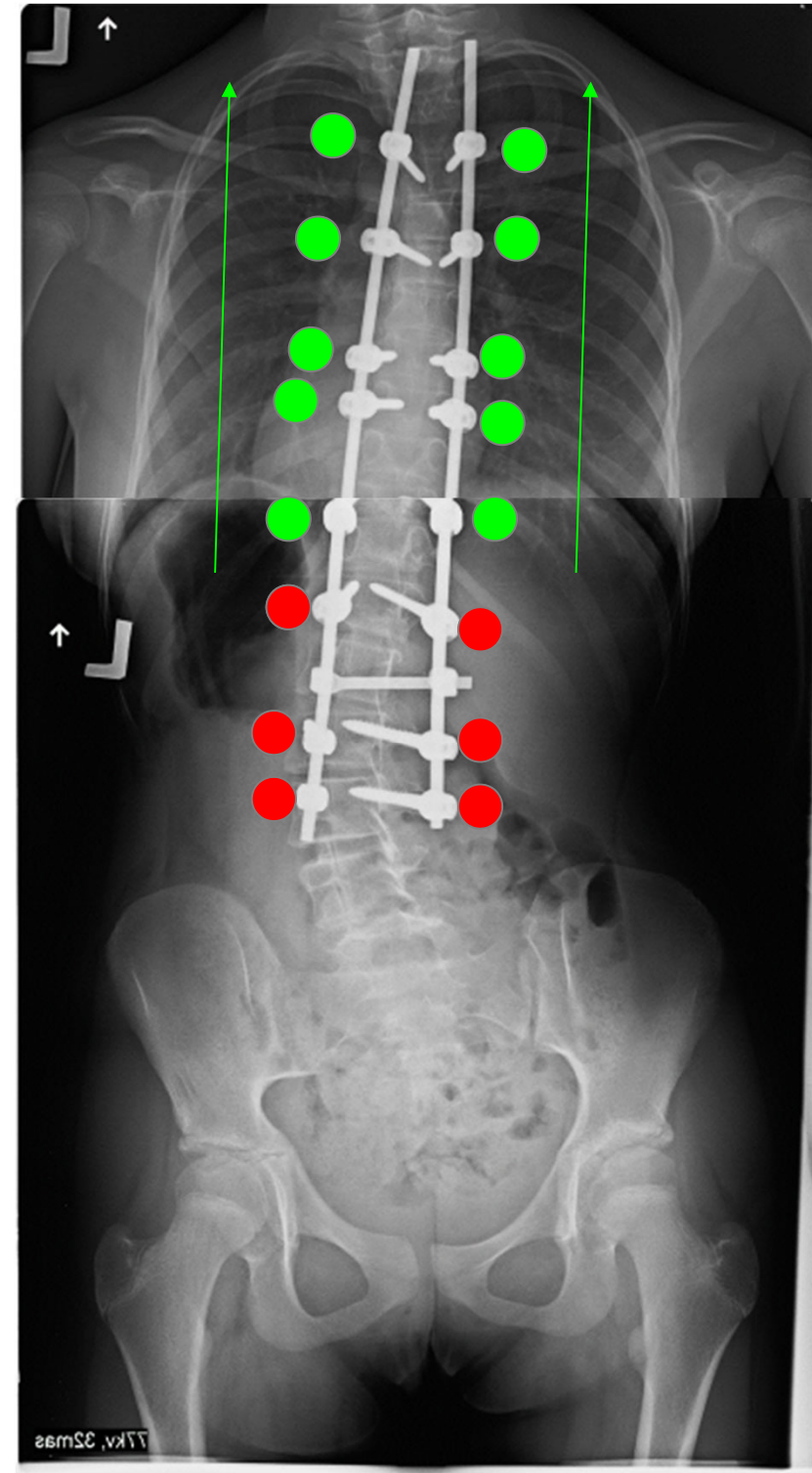
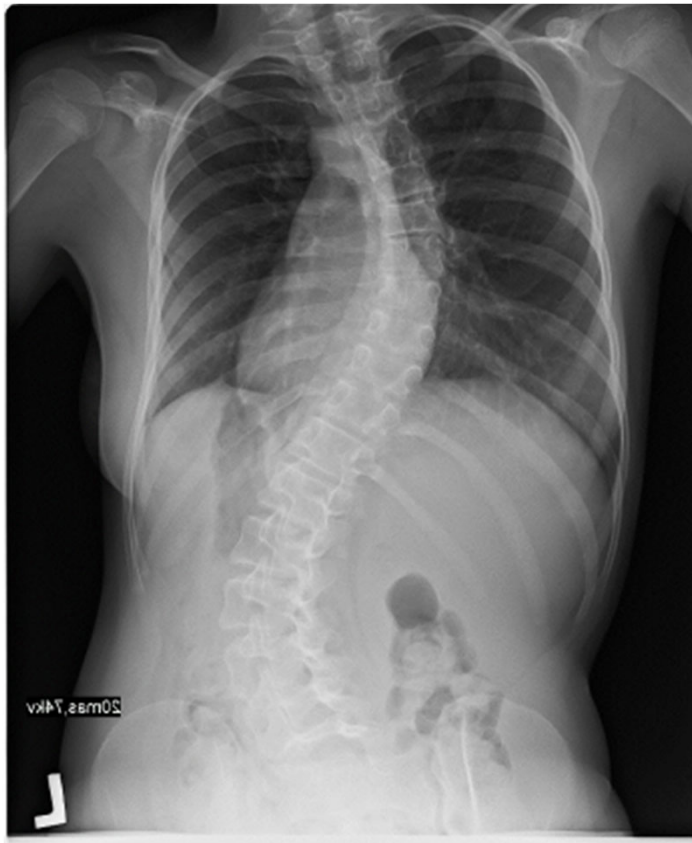


# Method

## group B 9 children double-curve

fixating and derotation the caudal L

Spine was enabled to grow and slide cephalaly along the rods.





# Results

**Correction** ranging from 50% to 90% (on average - **74%**)

**Finished:** 11 patients (Risser 5) **classic SF** in the whole range of stabilization

(The mobility of all individual segments out of the initial spondylodesis means  
that there was **no spontaneous SF**)

IP - **derotation of the AV:** all patients, I° in Nash-Moe classification

# Results

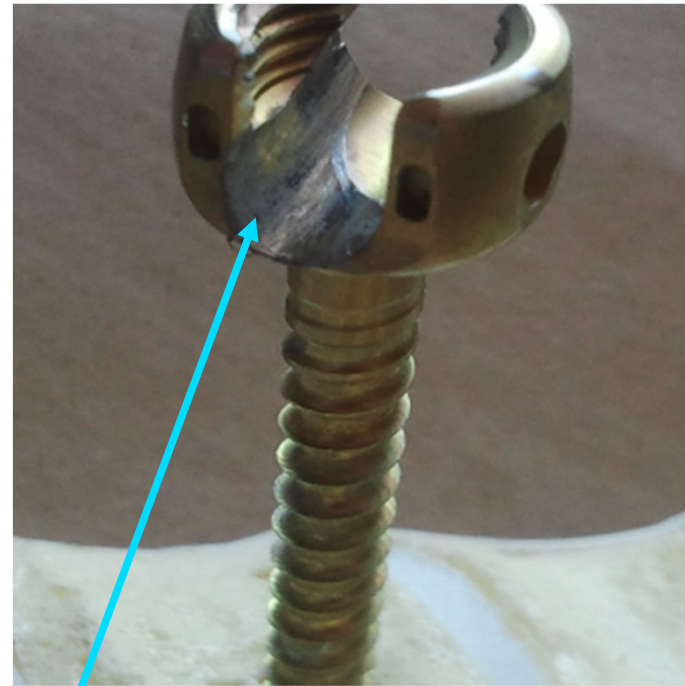
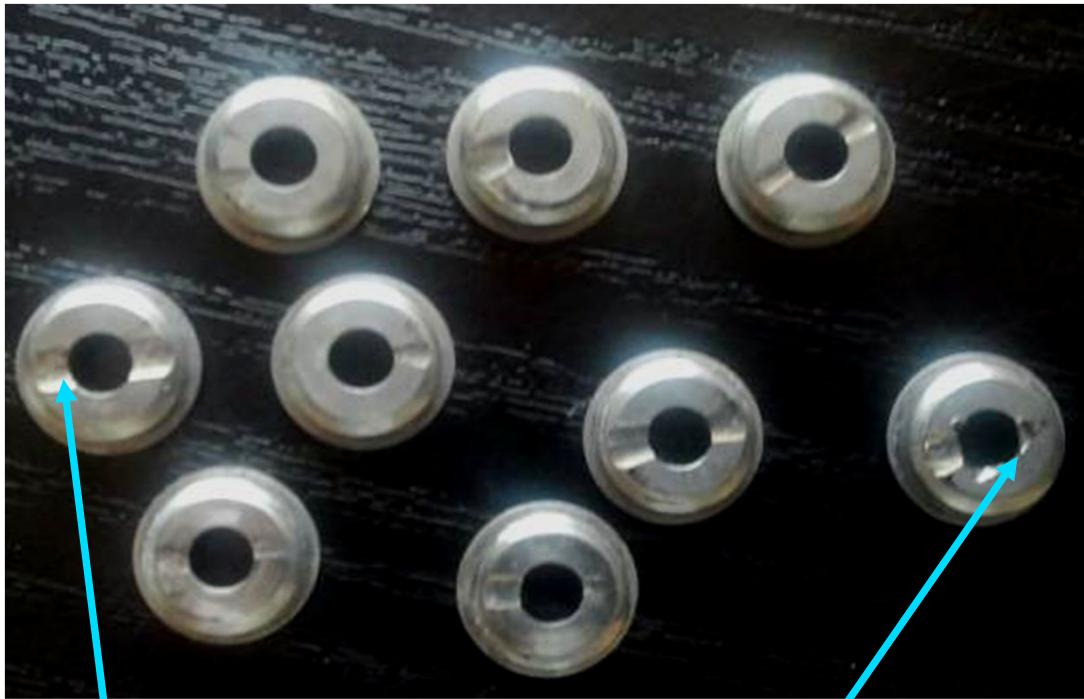
**no loss of correction** in 3D

**length of the spine increased:** 7-40 mm (apx 1 mm / month)

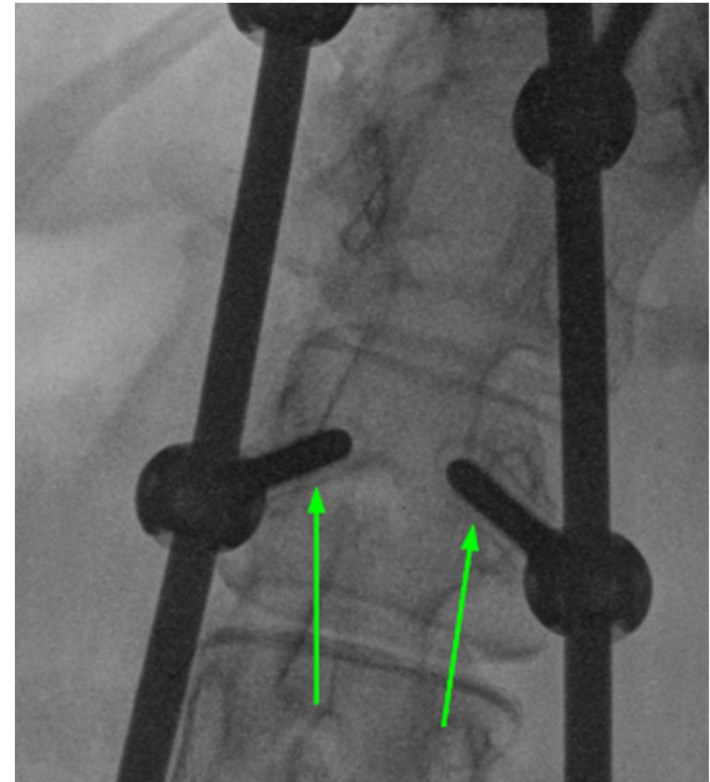
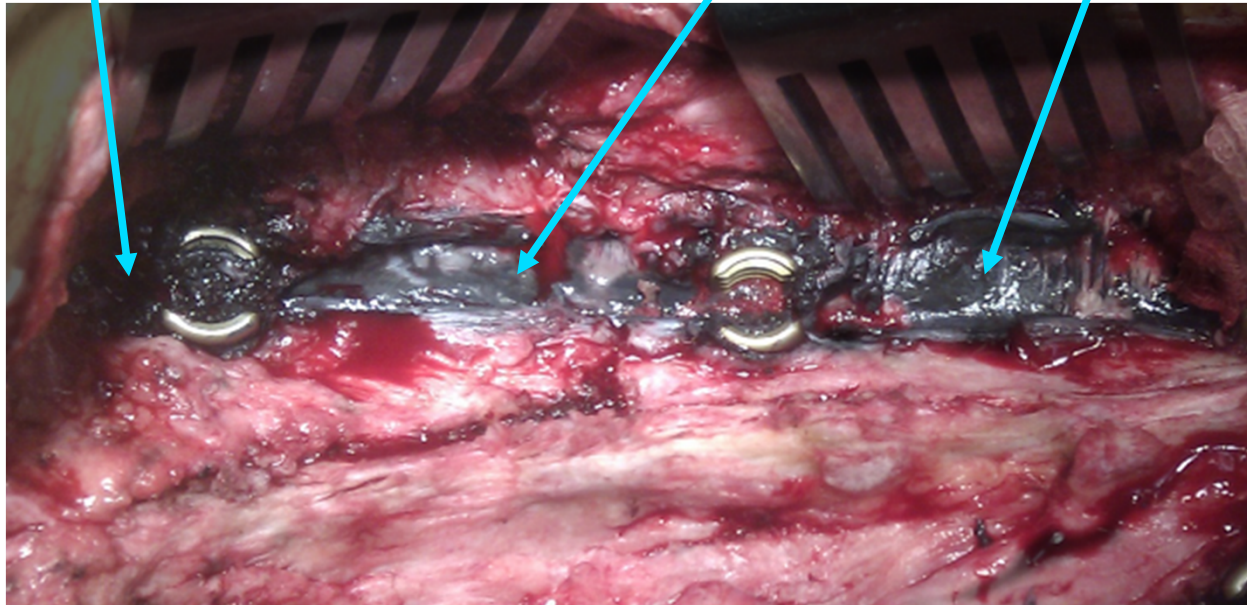
**Avoided** et least **60** lengthening **procedures** vs conventional

GR technique

2 patients required replacement the rods for a longer (10 and 14 months) (risk of slipping of from the extreme lower screws)



metallosis



# conclusion

IP- very good 3D correction- specialty Group A.

- cosmetic result
- loads to the transfers thought the spine (not implnts) - normal bone structure.

No staged surgery procedures.

Less complications but metal pollution

Less costs

Smaller trauma for children

No brace.





*Thank you*

Source: City of Lublin Marketing Office

