



Persisting Growth After Prophylactic Single Screw Epiphysiodesis In Upper Femoral Epiphysis

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DISCLOSURE

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The authors have no conflict of interest

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BACKGROUND

- **No growth ¹**
(partially threaded) cannulated screws
- **Persisting growth in 12 of 13 hips ²**
(fully threaded) cannulated screws

¹ Laplaza et al., J Pediatr Orthop, 1995

² Breaud et al., J Pediatr Orthop B, 2009



AIM

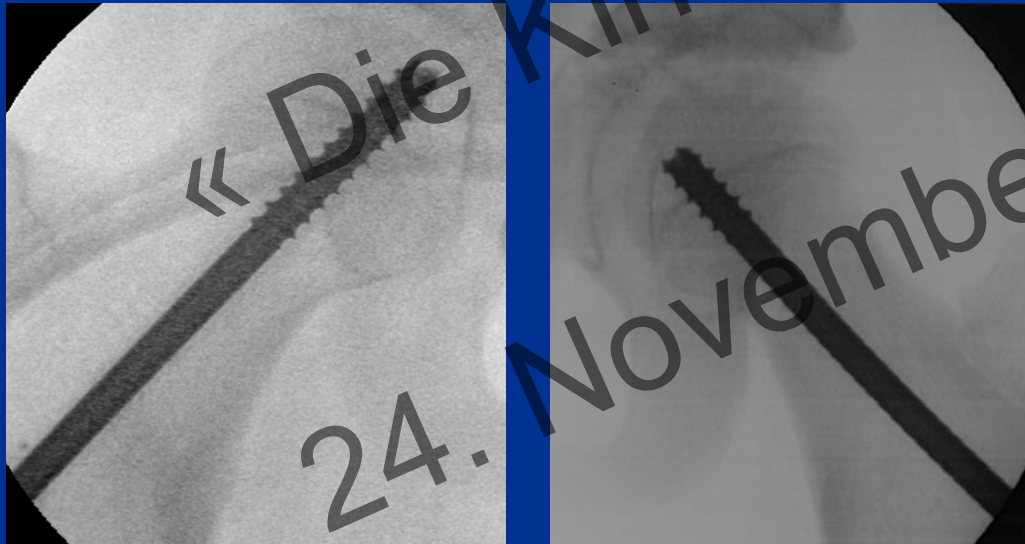
- Incidence of persisting growth
- Incidence of Revision surgery



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PATIENTS

- 11 children
- From 2006 – 2009
- Prophylactic percutaneous pinning
single cannulated 6.5mm cancellous screw





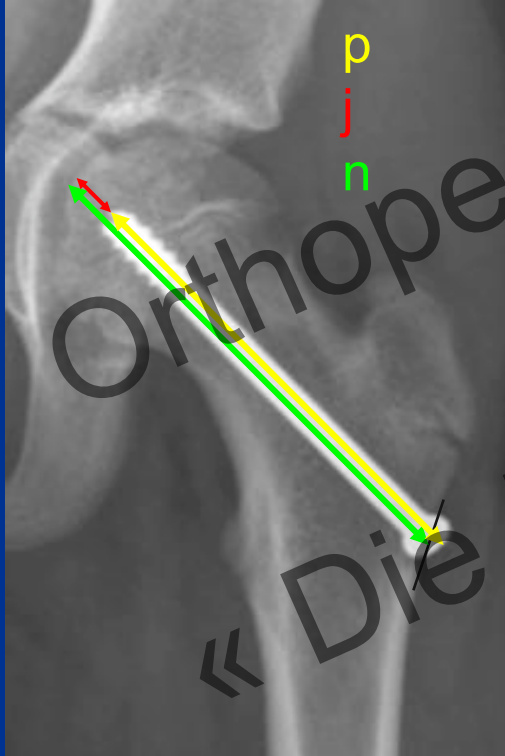
ASSESSMENT

f/u 37months (12.5 - 49.5)

- Number of threads crossing growth plate
- Time to fusion
- Age
- Height
- Pin-joint ratio ¹

and modification Pin-neck ratio

PIN – NECK RATIO



- Pin-joint ratio ¹

$$j / p \times 100$$

- Pin-neck ratio

$$n / p \times 100$$

DEMOGRAPHICS

Gender	female (n=6)	male (n=5)
Age (years)	11.1 (9.7 – 13.1)	13.2 (10.2 – 16.5)
Height (cm)	147 (140 – 153)	159 (136 – 170)
BMI (kg/m ²)	19.7 (15.3 – 27.5)	21.6 (17.3 – 26.5)

RESULTS

Cannulated screws	16mm threads (n = 6)	32mm threads (n = 5)
Number of threads crossing growth plate	3.3 (range 2 - 4)	3.5 (range 2 - 4)
Pin-neck ratio (%)	102.0	108.6
Physeal closure (months)	18.0 (range 7 - 22.8)	18.8 (range 11 - 28.4)
Pin-neck ratio (%)	110.9	118.7

RESULTS

Revision surgery	16mm threads	32mm threads
	one female (n=1)	one male (n=1)
Number of threads crossing growth plate	2	2
Height (cm)	140	136
Age (at time of revision)	12.4	12.2
Months after primary surgery	11	24
Increase of femoral neck length	8.2 %	6 %

12.4 YEARS OLD GIRL



p.o.



11 months p.o.



revision

12.2 YEARS OLD BOY



p.o.



24 months p.o.



revision



Summary

- **No contralateral slip**
- **10 of 11 patients had persisting growth**
- **Increase of femoral neck length of 8.2%**

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OUTLOOK

- Change in therapy
- Overstand on lateral cortex





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