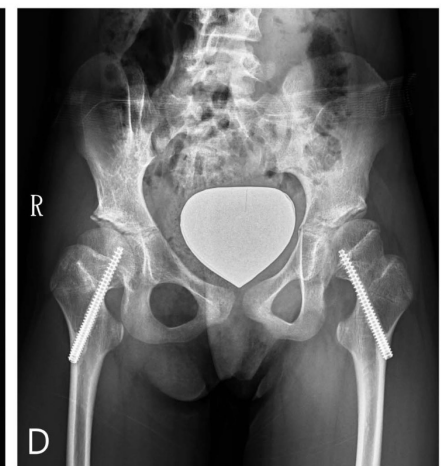
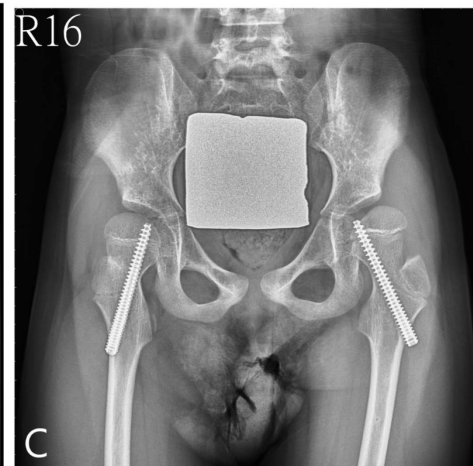
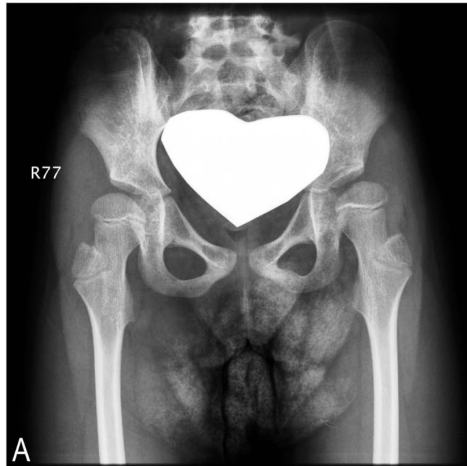


# Guided growth i höftleden vid CP



# Guided growth i höftleden vid CP

- Skruv över rätt del av tillväxtzonen ”riktar om” lårbenets tillväxt
- Ej så etablerad metod – enstaka små studier
- 2019 två studier varav en 5-årsuppföljning

# Guided growth i höftleden vid CP



## **Guided Growth of the Proximal Femur for the Management of Hip Dysplasia in Children With Cerebral Palsy.**

Portinaro, Nicola; Pr, MD; Turati, Marco; Cometto, Matteo; Bigoni, Marco; Davids, Jon; Panou, Artemisia

Journal of Pediatric Orthopaedics. 39(8):e622-e628, September 2019.

DOI: 10.1097/BPO.0000000000001069

FIGURE 2 . Pelvic radiograms during the 5-year follow-up of an 8-year-old GMFCS IV female. [preop (A); at 1 y (B), 2 y (C); 3 y (D); 4 y (E); 5 y (F)]. All radiographic measurements showed a significant improvement. GMFCS indicates gross motor function classification system.

# Guided growth i höftleden vid CP

- 28 barn, 56 höfter (7 barn med GMFCS III, 9 med GMFCS IV, 12 med GMFCS V)
- skruven förlorade fäste på 9 höfter (inom 36 mån)
- 3 höfter progredierade och behövde femurosteotomier

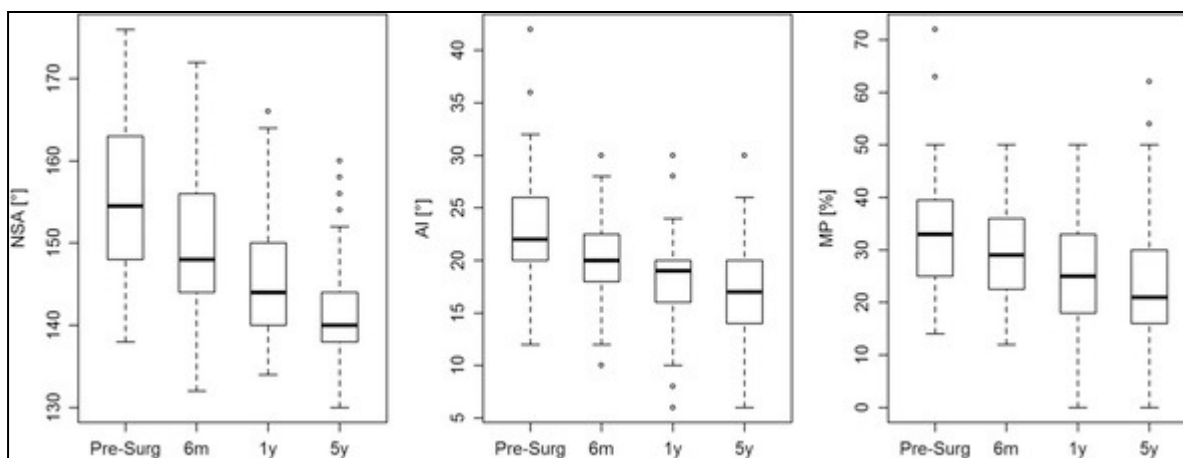


FIGURE 1 . Temporal variations of NSA (left), AI (middle), and MP (right) values. AI indicates acetabular index; MP, migration percentage; NSA, neck shaft angle.

# Guided growth i höftleden vid CP

- 2019 två studier varav en 5-årsuppföljning
- 2022 första Review-artikeln – 4 studier

*Systematic Review*

# Guided Growth of the Proximal Femur for the Management of the ‘Hip at Risk’ in Children with Cerebral Palsy—A Systematic Review

Moritz Lebe <sup>1</sup>, Renée Anne van Stralen <sup>2,\*</sup>  and Pranai Buddhdev <sup>1</sup> 

<sup>1</sup> Broomfield & Addenbrookes Hospitals, Chelmsford CM1 7ET, UK; moritz.lebe@nhs.net (M.L.); pranai.buddhdev@nhs.net (P.B.)

<sup>2</sup> Erasmus MC Sophia Children’s Hospital, 3015 CN Rotterdam, The Netherlands

\* Correspondence: r.a.vanstralen@gmail.com; Tel.: +31-(0)-653793855

considerations and the limitations of this novel technique. Results: Four studies (93 patients; 178 hips) met the eligibility criteria for inclusion in the meta-analysis. All three radiographic measurements showed significant changes at a minimum of 2 years of follow-up. Mean changes for MP were 8.48% (95% CI 3.81–13.14), HSA 12.28° (95% CI 11.17–13.39) and AI 3.41° (95% CI 0.72–6.10), with I<sup>2</sup> of 75.74%, 0% and 87.68%, respectively. The serious complication rate was overall low; however, physeal ‘growing off’ of the screw was reported in up to 43% of hips treated. Conclusion: TMH-PF is an effective and predictable method to treat CP patients with ‘hips at risk’, and the overall complication rate is low; however, further work is required to identify the best candidates and surgical timing, as well as choice of technique and implant.

*Systematic Review*

# **Guided Growth of the Proximal Femur for the Management of the ‘Hip at Risk’ in Children with Cerebral Palsy—A Systematic Review**

Moritz Lebe <sup>1</sup>, Renée Anne van Stralen <sup>2,\*</sup>  and Pranai Buddhdev <sup>1</sup> 

<sup>1</sup> Broomfield & Addenbrookes Hospitals, Chelmsford CM1 7ET, UK; moritz.lebe@nhs.net (M.L.); pranai.buddhdev@nhs.net (P.B.)

<sup>2</sup> Erasmus MC Sophia Children’s Hospital, 3015 CN Rotterdam, The Netherlands

\* Correspondence: r.a.vanstralen@gmail.com; Tel.: +31-(0)-653793855

- Dock dålig kvalitet på ingående studier
- Långtidsuppföljning saknas, men endast 5 – 21% av barnen behöver korrigerande skelettkirurgi inom 2 år



Contents lists available at ScienceDirect

## Journal of Orthopaedic Science

journal homepage: <http://www.elsevier.com/locate/jos>



### Original Article

# The effectiveness of adding guided growth to soft tissue release in treating spastic hip displacement

Huan Sheu, Wei C. Lee, Hsuan K. Kao, Wen E. Yang, Chia H. Chang\*

Department of Pediatric Orthopedics, Chang Gung Memorial Hospital, Chang Gung University, Taoyuan, Taiwan

**Methods:** This retrospective study comprised patients with cerebral palsy who underwent soft tissue release alone (Group STR) or soft tissue release plus guided growth (Group GG) for hip displacement (mean age, 8.1 years; mean follow-up, 4.9 years). Difference in the MP and rate of controlling MP <40% at 2 years postoperatively and rate of revision surgeries at 5 years postoperatively were compared between the groups.

**Results:** The two groups were comparable in age, side, and gross motor function level, but Group GG (n = 24) had more severe hip displacement preoperatively than did Group STR (n = 64). Group GG had a significantly greater 2-year decrease in the MP (−14.8% vs. −11.8%,  $p < 0.05$ ) than did Group STR. Among patients with a pre-operative MP >50%, the rate of MP <40% was greater in Group GG (73%) than in Group STR (41%). Revision surgeries, mainly repeated guided growth and soft tissue release, were comparable between the groups.

**Conclusions:** This is the first comparative study to support adding guided growth to soft tissue release, as it results in greater improvements in hip displacement than that with soft tissue release alone. Non-ambulatory patients or severe hip displacement with MP 50%–70% could benefit from this less aggressive surgery by controlling the MP under 40% without femoral osteotomy.





Contents lists available at ScienceDirect

Journal of Orthopaedic Science

journal homepage: <http://www.elsevier.com/locate/jos>



## Original Article

# The effectiveness of adding guided growth to soft tissue release in treating spastic hip displacement

Huan Sheu, Wei C. Lee, Hsuan K. Kao, Wen E. Yang, Chia H. Chang\*

Department of Pediatric Orthopedics, Chang Gung Memorial Hospital, Chang Gung University, Taoyuan, Taiwan

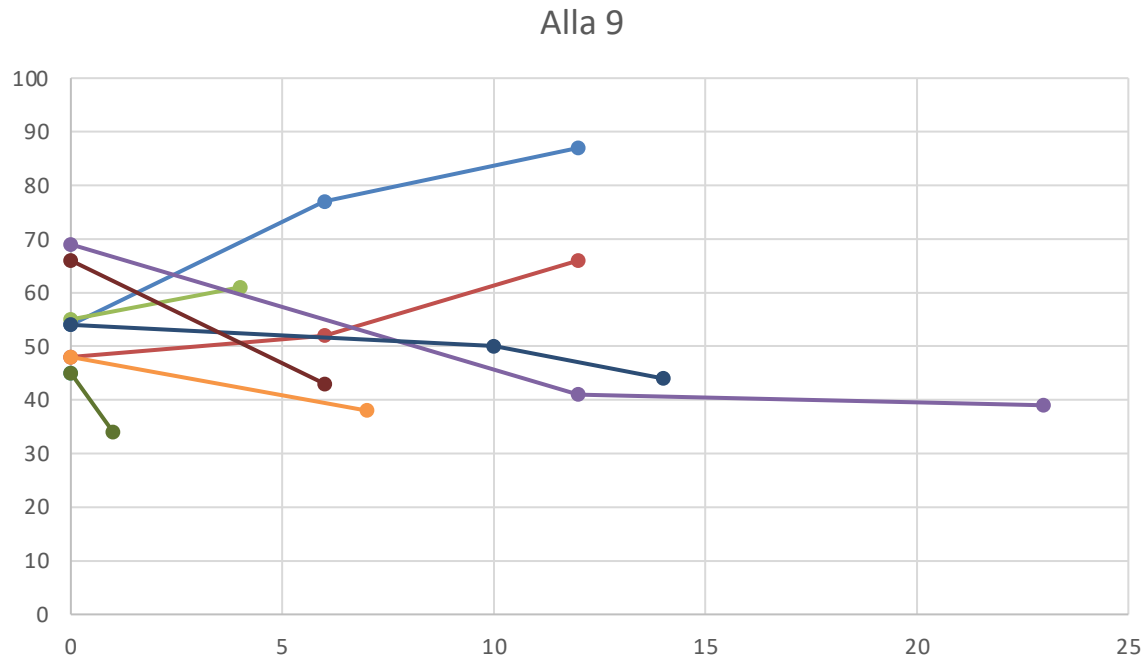
**Methods:** This retrospective study comprised patients with cerebral palsy who underwent soft tissue release alone (Group STR) or soft tissue release plus guided growth (Group GG) for hip displacement (mean age, 8.1 years; mean follow-up, 4.9 years). Difference in the MP and rate of controlling MP <40% at 2 years postoperatively and rate of revision surgeries at 5 years postoperatively were compared between the groups.

**Results:** The two groups were comparable in age, side, and gross motor function level, but Group GG (n = 24) had more severe hip displacement preoperatively than did Group STR (n = 64). Group GG had a significantly greater 2-year decrease in the MP (−14.8% vs. −11.8%,  $p < 0.05$ ) than did Group STR. Among patients with a pre-operative MP >50%, the rate of MP <40% was greater in Group GG (73%) than in Group STR (41%). Revision surgeries, mainly repeated guided growth and soft tissue release, were comparable between the groups.

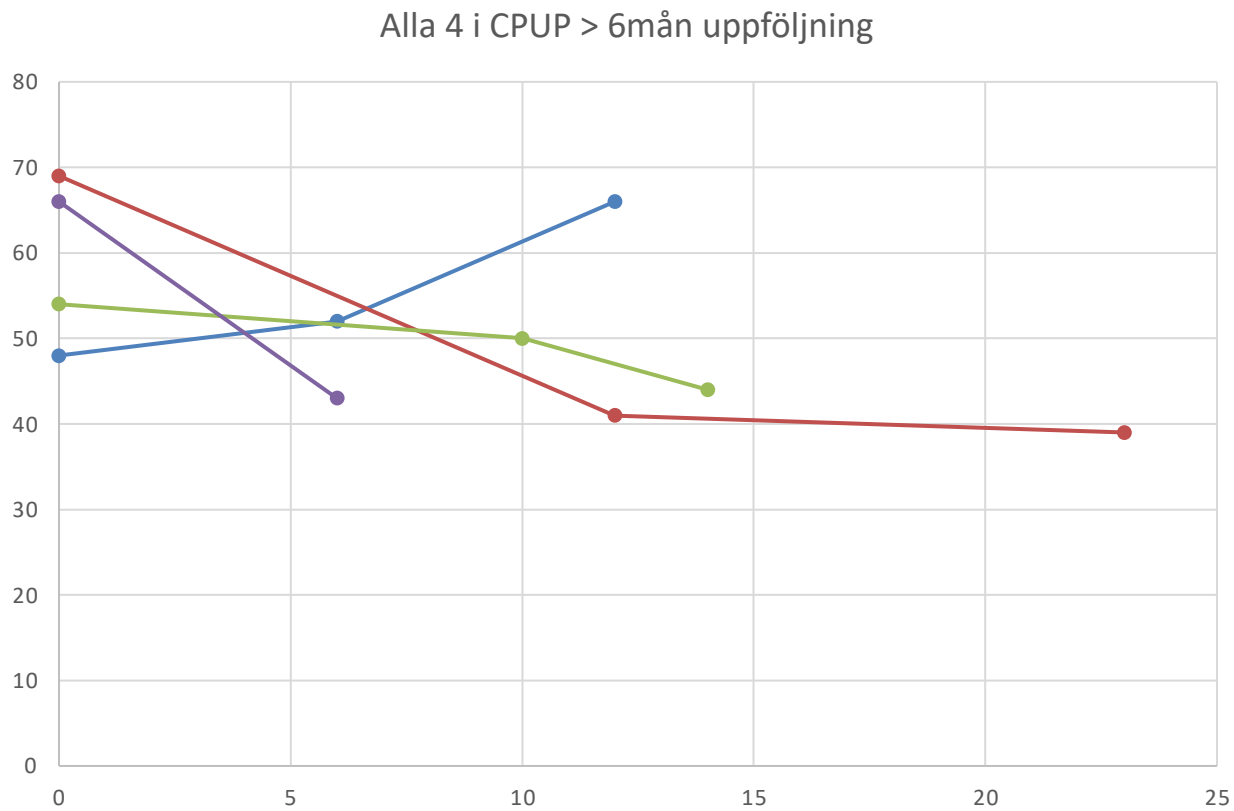
**Conclusions:** This is the first comparative study to support adding guided growth to soft tissue release, as it results in greater improvements in hip displacement than that with soft tissue release alone. Non-ambulatory patients or severe hip displacement with MP 50%–70% could benefit from this less aggressive surgery by controlling the MP under 40% without femoral osteotomy.

# Guided growth i höftleden vid CP

- Totalt 9 pat opererade, varav 2 ej med i CPUP
- 6 st uppföljda minst 6 mån, ytterligare 2 < 6 mån
- 1 avliden (4 mån uppföljning)
- Av de 6 uppföljda har 2 behövt reop pga skruvsläpp



# Guided growth i höftleden vid CP



# Failure of Hip Reconstruction in Children With Cerebral Palsy: What Are the Risk Factors?

*Arya Minaie, MD,\* J. Eric Gordon, MD,† Perry Schoenecker, MD,†  
and Pooya Hosseinzadeh, MD\*†*

---

**Background:** The rates and risk factors contributing to failure after hip reconstruction among patients with cerebral palsy (CP) are not well established. In analyzing a large cohort of children with CP who underwent hip reconstruction, the objectives of this study are to establish (1) the failure rates and (2) associated risk factors.

**Level of Evidence:** Level III—retrospective case series.

**Key Words:** cerebral palsy, reoperation, hip reconstruction, osteotomy, failure

*(J Pediatr Orthop 2022;42:e78–e82)*

- 291 höfter, 179 barn, 13% failure rate (38 höfter)
- Ökad risk för failure: op före 6åå, MP>70%
- Samtidig acetabularostetomi minskade risken för failure, särskilt om AI>25 grader preop

# Guided growth i höftleden vid CP

- Hur är era erfarenheter med guided growth?
- Andra tankar och synpunkter?