Free Communications 2: Bone, Growth Plate and Mineral Metabolism
FC2.6

Expansion of the CrescNet Registry Achondroplasia Module: Real-World Demographic Data and Outcomes after up to 2 Years of Vosoritide Treatment

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CrescNet Achondroplasia Study Group
Austria, Belgium, Bulgaria, Czech Republic, Germany, Greece, Poland, Romania

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The 62nd Annual Meeting 16-18 November

European Society for Paediatric Endocrinology

Disclosure Statement

K. Mohnike

I have the following potential conflicts of interest to report:

Research Contracts & Consulting contracts with BioMarin, QED, Ascendis, Novo-Nordisk, Zealand, Rezolute

ESPE
European Society for Paediatric Endocrinology

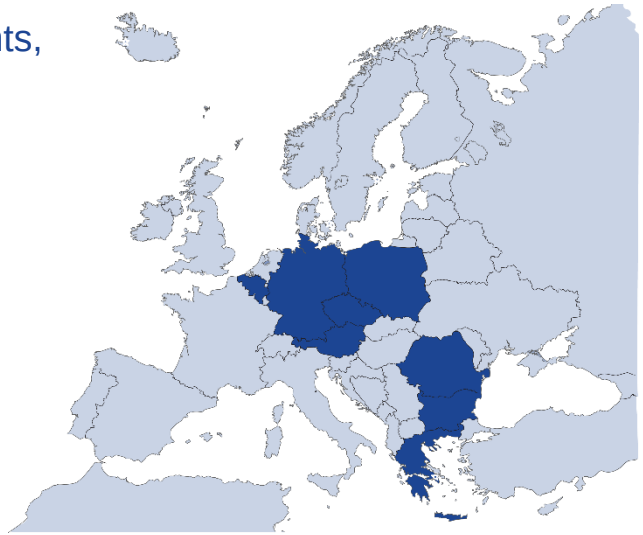
CrescNet (ClinicalTrials.gov ID: NCT03072537)

- Network of primary care physicians and paediatricians (n=445) and specialised treatment centres in paediatrics (n=43)
- Established in Leipzig in 1998 by Prof. E. Keller
- Operated by the Medical Faculty and Children's Hospital of the University of Leipzig, Germany
- Aim is to improve the early detection of growth disorders, epidemiological analyses of growth data
- >1,055,000 children are enrolled (date access: 10/24/2024)

Achondroplasia Module

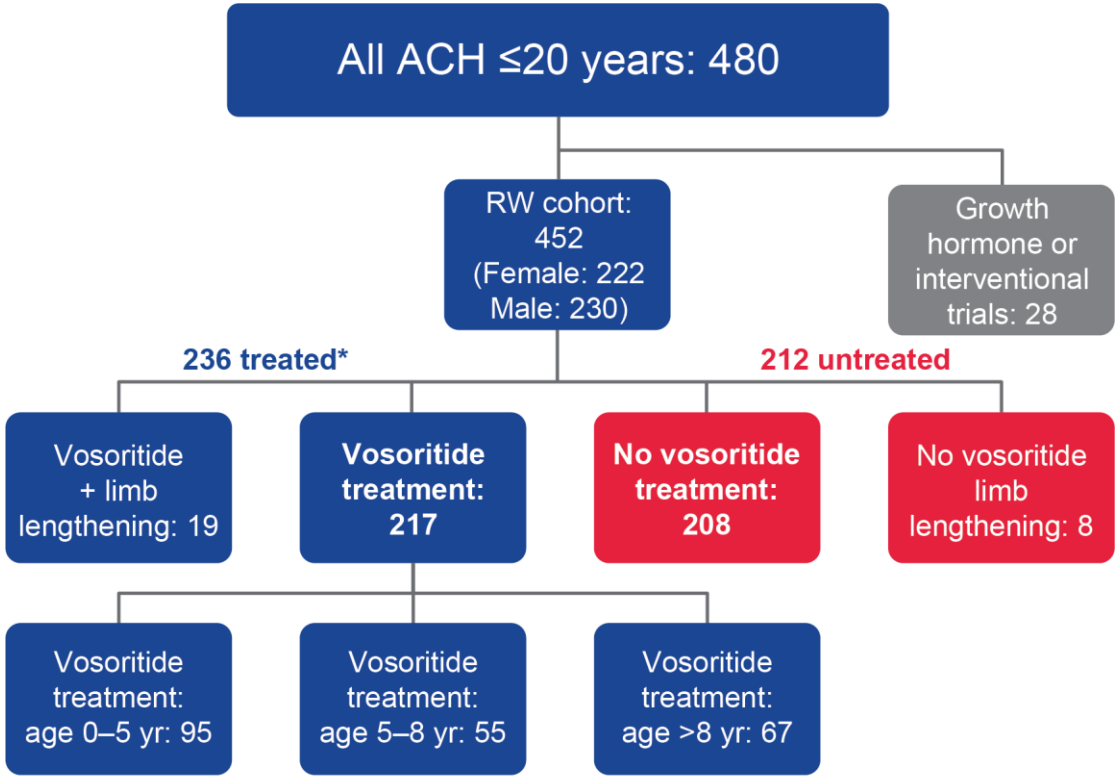
- Was set up in 2021 for this specific growth disorder as a sub study within the CrescNet registry in order to:
  - Describe natural course of genetically confirmed individuals
  - Document related complications, using HPO terms
  - Survey for HR-QoL, developmental milestones by patients, parents, caregivers (QR-code configured)
  - Monitor for growth data, pubertal stage, bone age

- 30 specialised treatment centres in 8 countries*



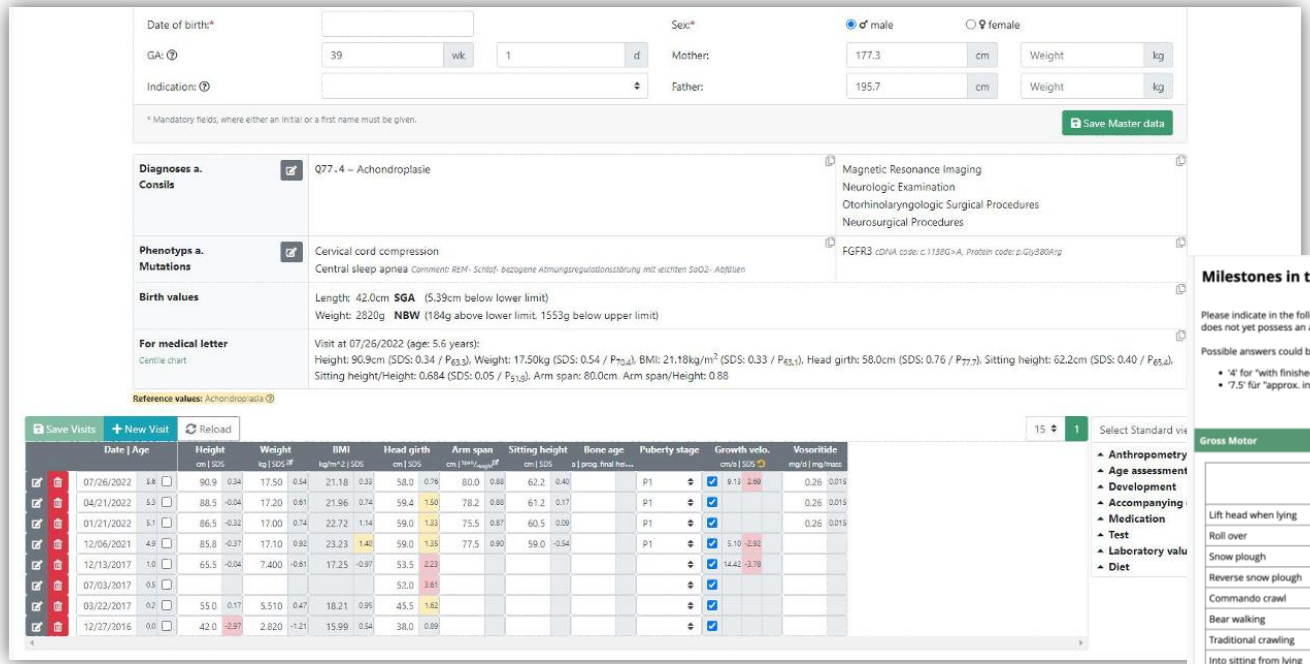
*24 Oct. 2024: Austria (1), Belgium (1), Bulgaria (1), Czech Republic (2), Germany (21), Greece (1), Poland (1), Romania (2)

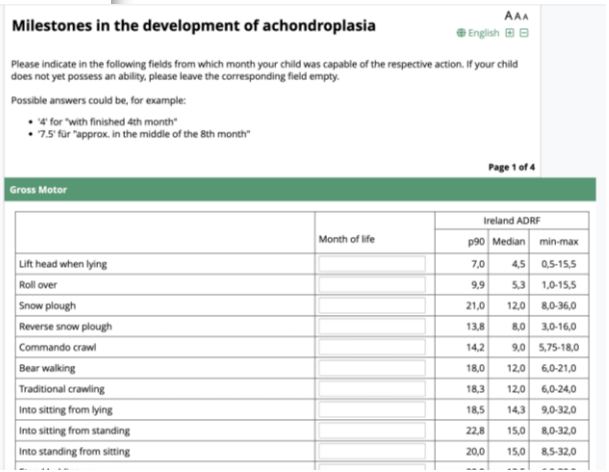
Patient Numbers Within the Achondroplasia Module



*Mean age (SD) at treatment start: 6.12 (3.67)

Standardised Documentation **During Patient Visits:** CrescNet® Case Reports



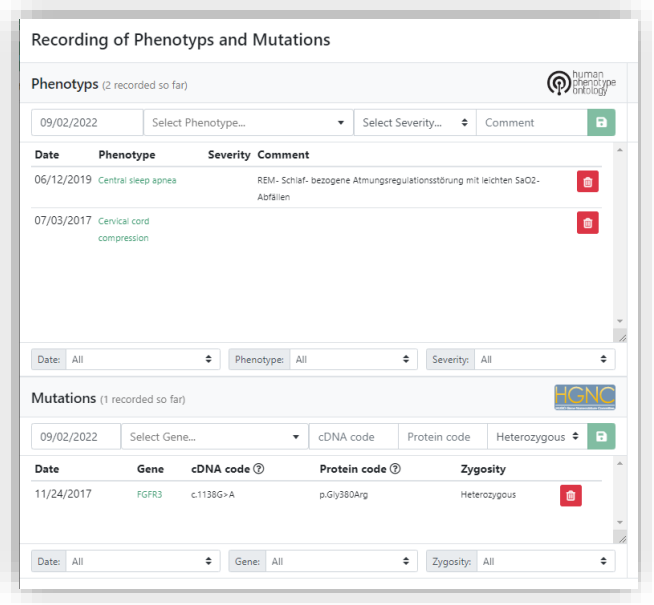


white = entry; highlighted in color = calculation; evaluation can be expanded by clicking on the required measurement variables

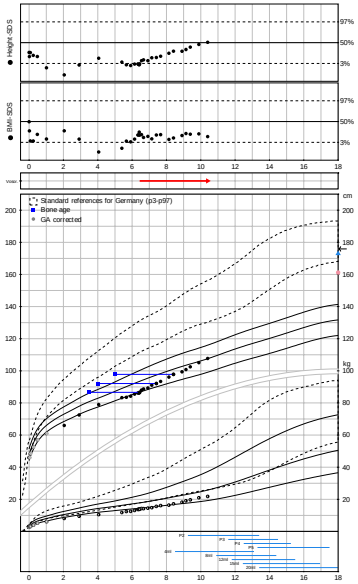
Merker A, et al. *Am J Med Genet A.* 2018;176(8):1723-1734.
Ireland PJ, et al. *Dev Med Child Neurol.* 2012;54(6):532-537.

Standardised Documentation **During Patient Visits:** Online Documentation in CrescNet®

Natural History (HPO) & Mutations (HGNC)



Auxology, Treatment, Pubertal Signs



H Z-score (Merker et al.)

BMI Z-score (Merker et al.)
treatment

Normal height

Achondroplasia
reference (Merker et al.)

Weight (normal)

Weight (Merker et al.)

Pubertal stage

Merker A, et al. *Am J Med Genet A.* 2018;176(8):1723-1734.
Ireland PJ, et al. *Dev Med Child Neurol.* 2012;54(6):532-537.

Height and ACH Z-score* Improved With Vosoritide Treatment

- Among **143** participants (**75** males, **68** females), treated with vosoritide for **12** months, mean (SD) height increase from baseline was **6.36** (2.13) **cm**, with ACH Z-score improvement of **0.7** (1.13).

- Furthermore, among **73** participants (**41** males, **32** females) treated with vosoritide for **24** months, mean (SD) height increase from baseline was **11.86** (2.45) **cm**, with ACH Z-score improvement of **1.15** (1.15).

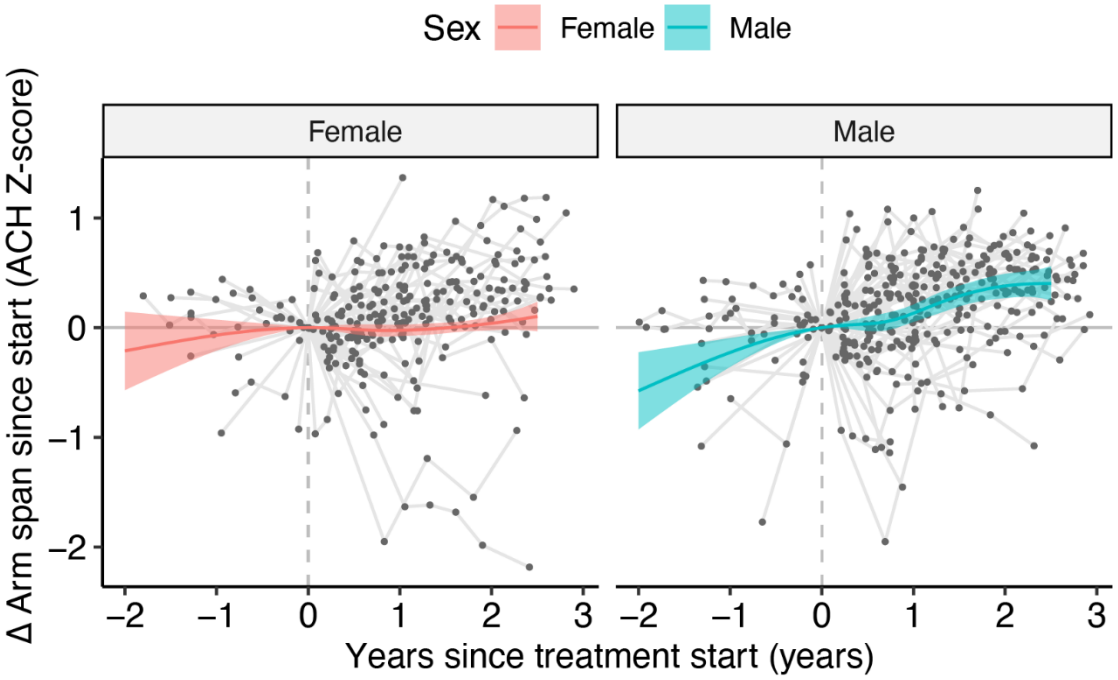
*Z-score using achondroplasia reference population.
ACH, achondroplasia.
Merker A, et al. *Am J Med Genet A.* 2018;176(8):1723-1734.

ACH Height Z-score Consistently Improved Over 2 Years of Treatment with Vosoritide

ACH, achondroplasia.
Merker A, et al. *Am J Med Genet A.* 2018;176(8):1723-1734.

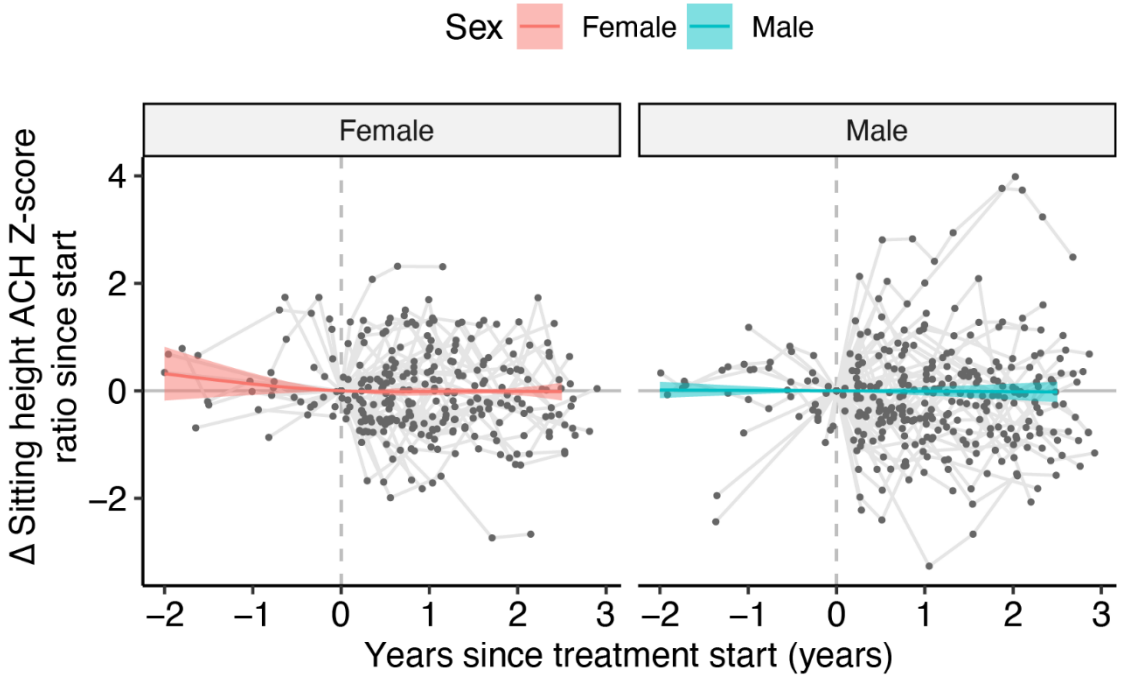
Body Proportion

Arm Span ACH Z-score Improved Over 2 Years of Vosoritide Treatment in Children With Achondroplasia



ACH, achondroplasia.
Merker A, et al. *Am J Med Genet A.* 2018;176(8):1723-1734.

Sitting Height ACH Z-score Ratio Was Consistent in Vosoritide-Treated Children With Achondroplasia

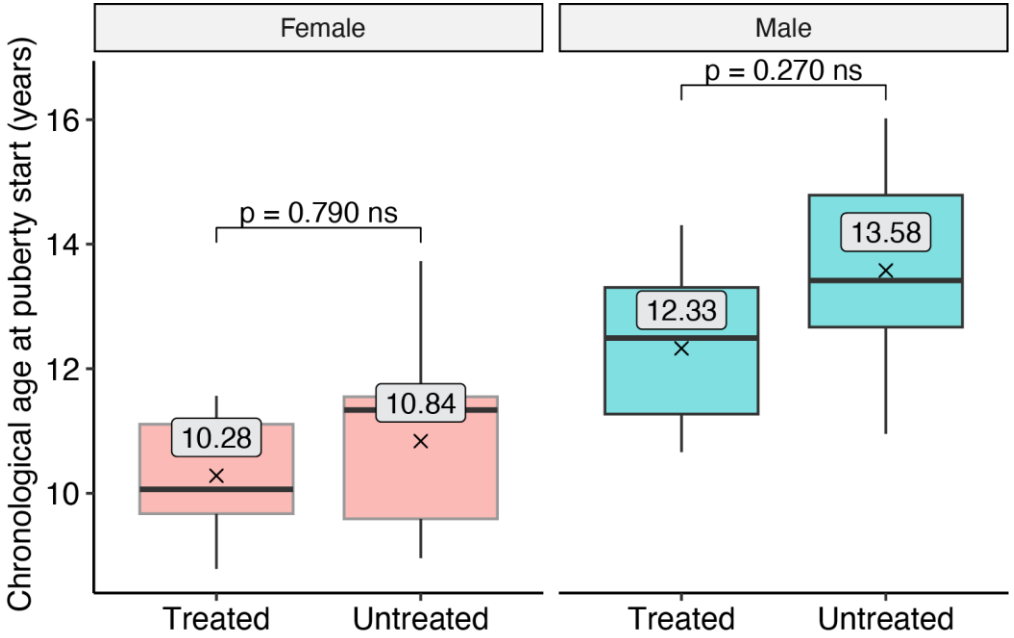


Data suggest that vosoritide treatment led to proportionate growth of both the upper and lower body segment.

ACH, achondroplasia.
Merker A, et al. *Am J Med Genet A.* 2018;176(8):1723-1734.

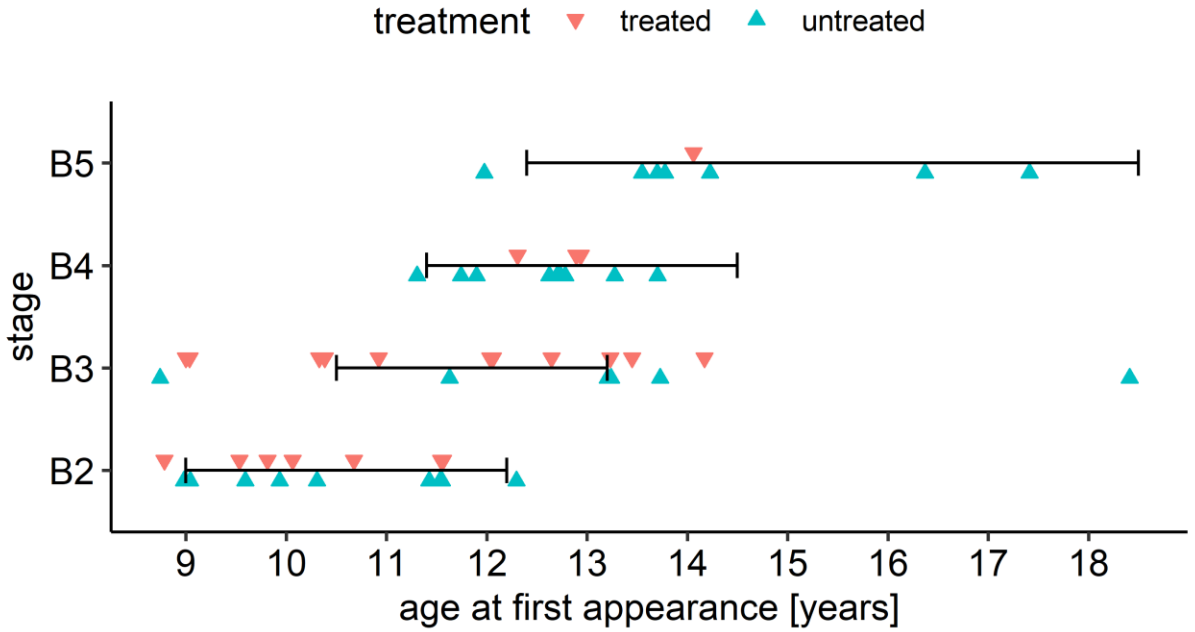
Puberty and Bone Age

Pubertal Stages Are not Affected by Vosoritide Treatment in Achondroplasia



- Testicle volume = 4 ml
- Male: pubic stage = P2
- Female: breast stage = B2
- Bone age: female 11–12, male 13–14

Pubertal Stages Are not Affected by Vosoritide Treatment in Achondroplasia: Breast

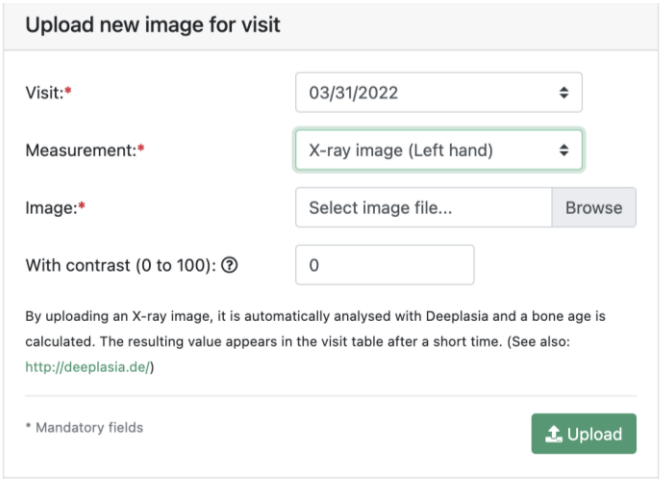


Treatment Summary

- CrescNet is a continuously growing multinational registry aiming to monitor growth and development of treated and untreated children with achondroplasia
- Up to two years of vosoritide treatment in children with achondroplasia led to:
  - Improvements in ACH Z-score height of up to 1.15
  - Improvements in proportionality shown by increases in arm span
- Sitting Height/Height ACH Z-score was not affected by vosoritide treatment suggesting proportionate growth in both upper and lower body segment
- Vosoritide treatment had no impact on puberty onset age

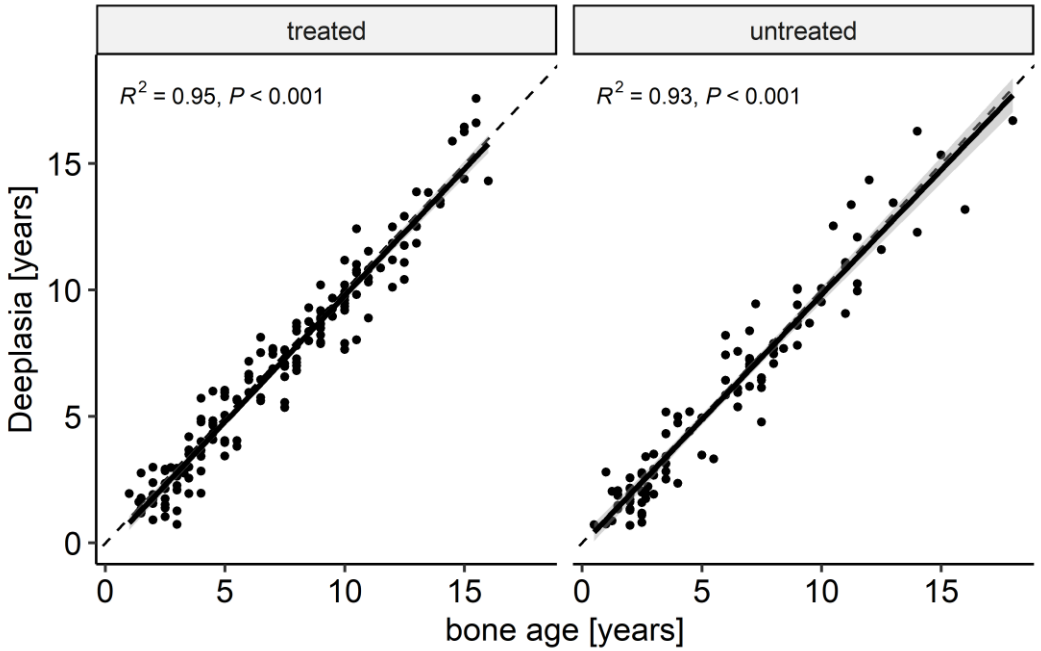
ACH, achondroplasia.
Merker A, et al. *Am J Med Genet A.* 2018;176(8):1723-1734.

Automated Bone Age by AI-tool Deeplasia



1. Open attachment
2. Select visit date
3. Upload DICOM, JPG, TIF or other image format
4. Result is displayed direct in visit table

Results of Bone Age in Achondroplasia Assessed With Deeplasia Are Consistent With Greulich/Pyle Method



Results in bone age assessed via Deeplasia are consistent with Greulich and Pyle assessment

- Integration of Deeplasia allows for quick and reliable assessment of bone age

Rassmann S, et al. *Pediatr Radiol.* 2024;54(1):82-95.

Participating Centres

See also Poster:

K. Wechsung et al.

Real World Effectiveness of Vosoritide in 217 Children with Achondroplasia – Data from a Multicenter European Registry

Poster place: T 20