

Evaluation of an Automated Bone Age Estimation Method

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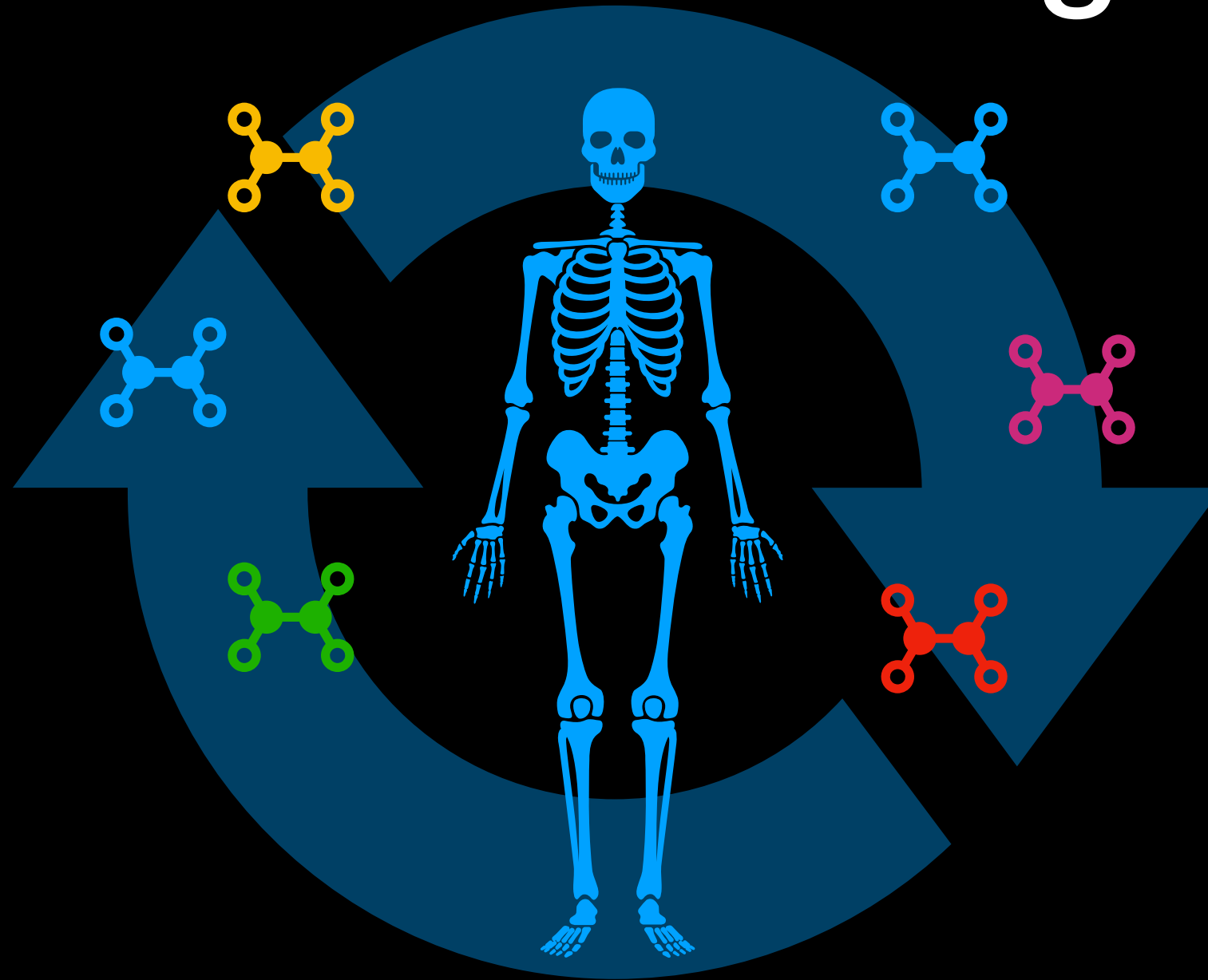


Disclosure

- University of North Carolina at Charlotte
- Universidad del Desarrollo
- Clínica Alemana de Santiago



Why do we want to estimate Bone Age?



How do we measure Bone Age?

Tanner-Whitehouse method



Greulich and Pyle atlas



Rev Chil Pediatr. 2018;89(5):606-611

Why do we wanted an automated Bone Age estimation method?

	Time	CI (years)
Greulich and Pyle	2 minutes	-2.46 to 2.18
Tanner-Whitehouse 2	8 minutes	1.42 to 1.43

Pediatrics. 2017;140(6):e20171486



Protocol

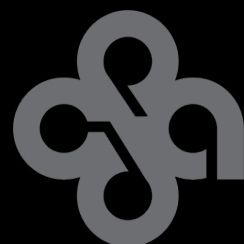
- Observational retrospective
- 1,500 consecutive anonymized carpal X-rays
- Children under 16 years
- Between January 2013 and January 2016
- Correlation between Radiologist and BoneXpert®



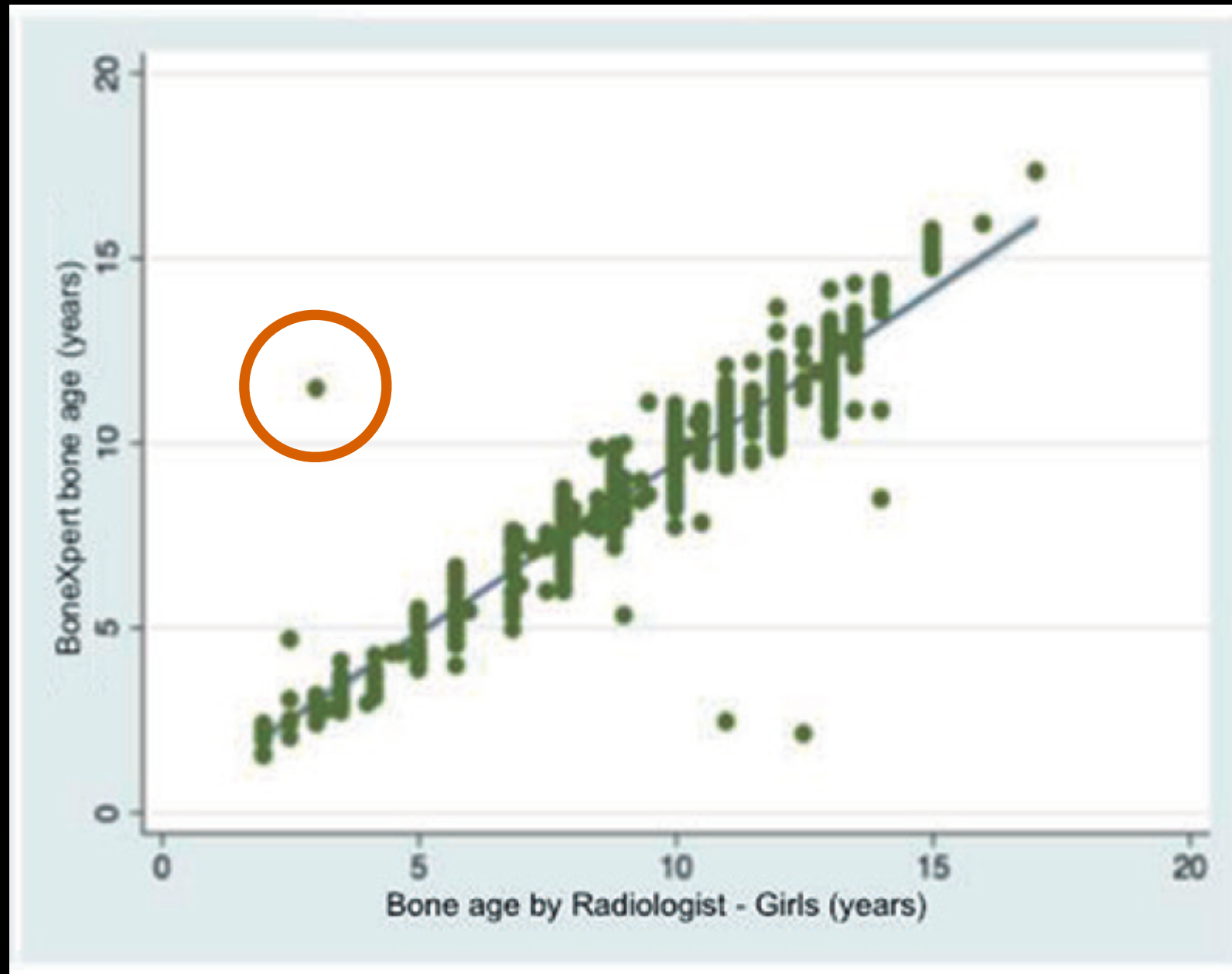
Results

	Girls	Boys
Cases	61.1% (N = 922)	38.4% (N = 571)
Median age (years)	9.96 (IQR 8.51 - 11.29)	11.12 (IQR 8.72 - 12.71)

- Correlation among different raters: 0.91 - 0.93
- Average difference: 2.2 months (CI 1.56 - 2.99)



Results



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