



Craniofacial
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Comparison Of Methodologies For Craniofacial Soft-tissue Cephalometrics: The Value Of Virtual Reality

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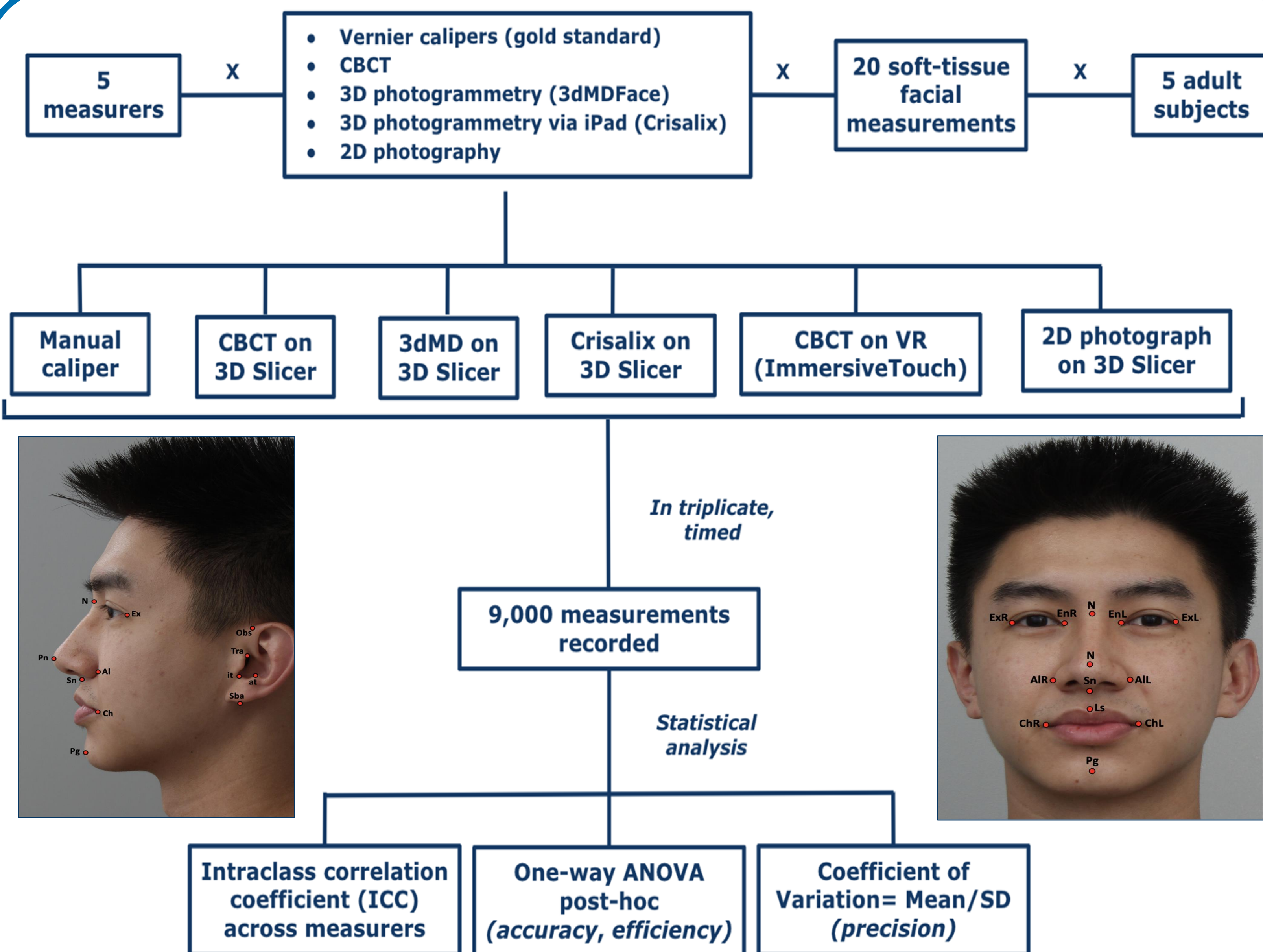


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Background

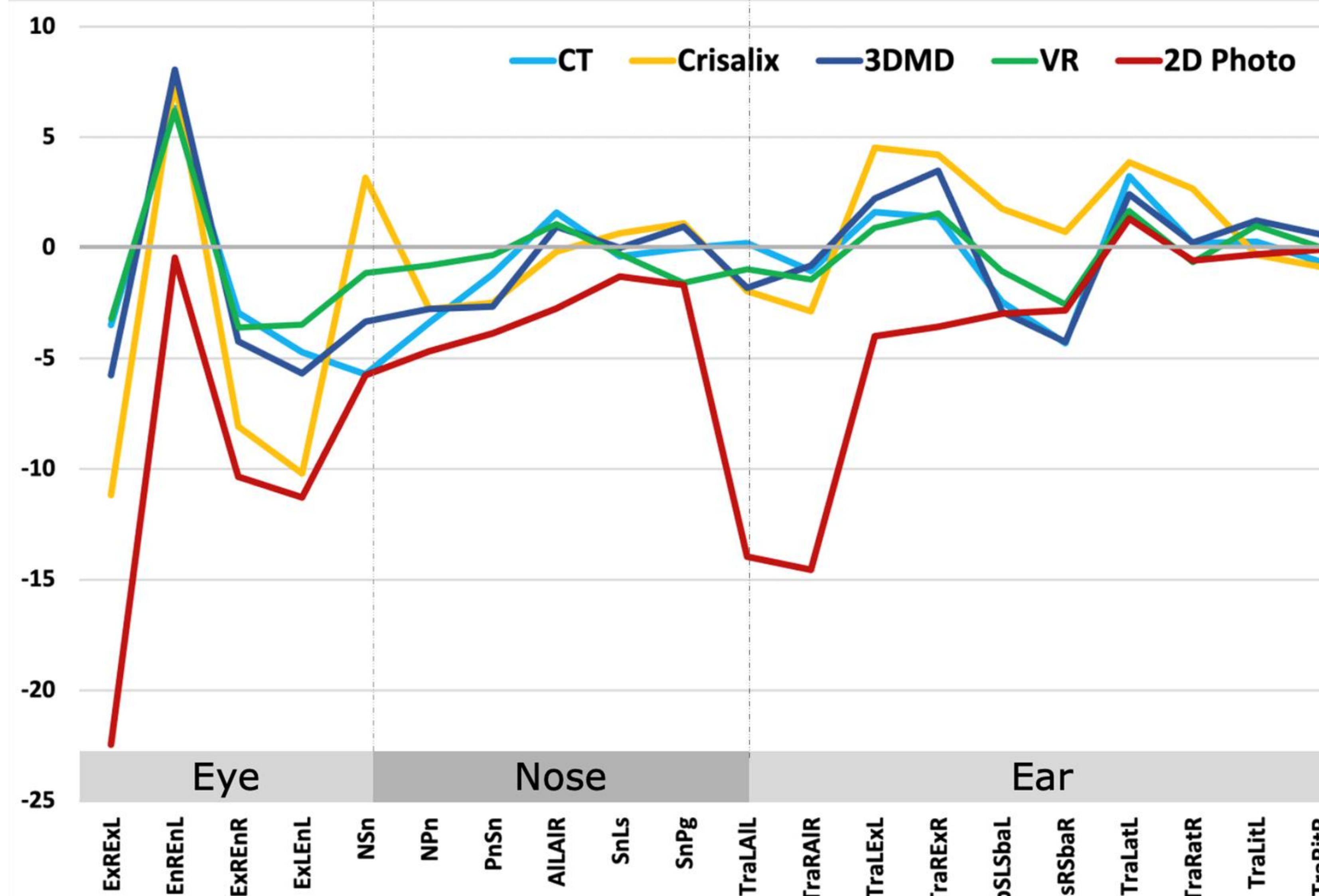
- Soft-tissue cephalometrics play an important role in perioperative evaluation within plastic surgery
- Options available: **Calipers, 2D photography, 3D stereophotogrammetry, and CBCT**
- Study Objective-** To compare the accuracy, precision, and efficiency of multiple modalities for facial soft-tissue measurements including the addition of virtual reality

Methods



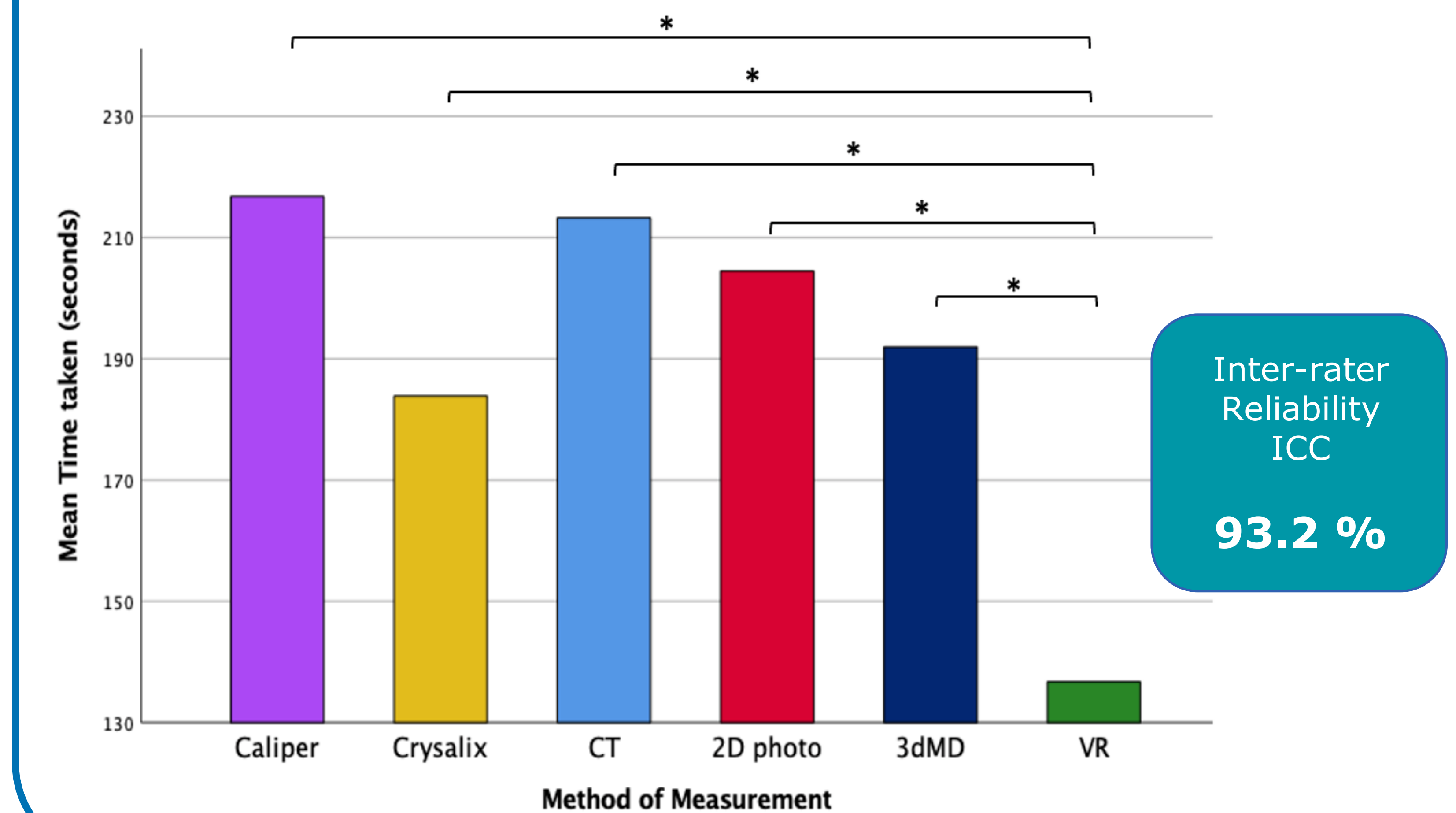
Results

Comparison of difference of Mean measurement values from Caliper ($y=0$)



Method	Coefficient of Variation Mean (SD)	p-value Compared to gold standard (caliper)
Crisalix	9.9 (0.7)	0.241
CBCT	7.4 (0.3)	1.000
2D Photography	11.1 (0.9)	0.006*
3dMD	8.4 (1.6)	1.000
VR	6.4 (0.9)	0.087

Comparison of Mean time taken in each set of measurements using different modalities ($*p<0.05$)



Conclusion

- 2D photography is not an accurate or precise** method for soft-tissue cephalometrics
- VR: fastest, lowest variation** among measurements, displayed **similar accuracy to calipers**
- For studies requiring extensive cephalometric landmarking, **VR modalities may improve study throughput**



AAPS | American Association
of Plastic Surgeons est. 1921